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JANUARY
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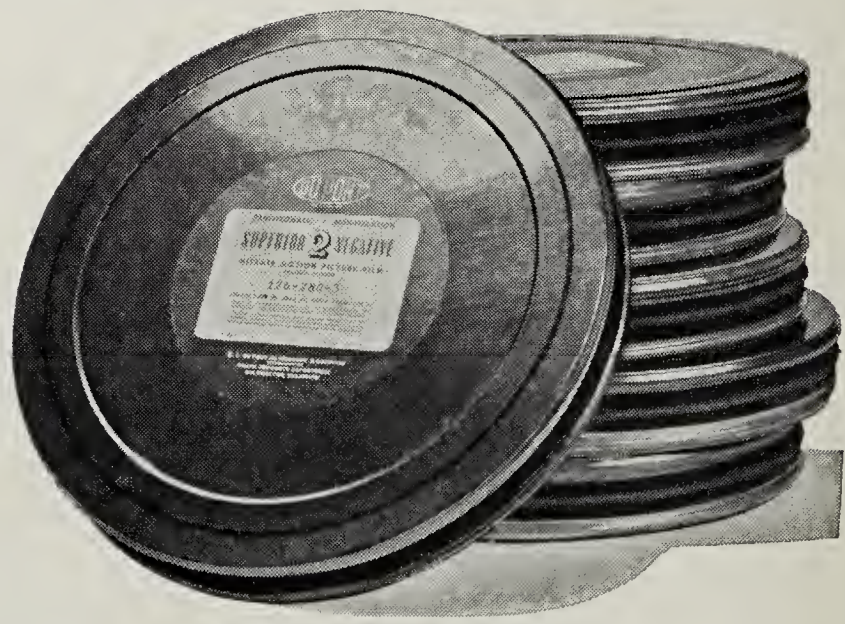


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Hollywood Bulletin Board

ACADEMY AWARDS—Preliminary nominating ballots have been mailed to all members of the A.S.C. by the Academy of Motion Picture Arts and Sciences, marking the initial step in the annual procedure of selecting the motion pictures, and the artists and technicians involved in their making, to be awarded "Oscars" by the Academy next March.

Hollywood's cinematographers are again placing emphasis on the importance of impartial and careful consideration of every picture nominated for the annual Photographic Awards. They are determined that only the best job of photography, regardless of personalities, politics or propaganda, shall decide the winners of the coveted "Oscars." This determination is commendable and certain to have a salutary influence of benefit to those directors of photography, without whose camera artistry the year's best pictures might have fallen far short of success.

Leading cinematographers have emphasized that it is incumbent upon every cinematographer privileged to aid in the selection of Academy Award nominees, to see every nominee-production, to re-review it if necessary, so that he shall not be in doubt when the time comes to mark his nominating and subsequent voting ballots.

•

AT THE TOP of *Film Daily's* "Ten Best Pictures For 1948," based on results of a poll conducted among 508 representative motion picture critics, reviewers, etc., is "Gentlemen's Agreement," with "Johnny Belinda," and "I Remember Mama," following in that order. By comparison, the New York Film Critics voted "Treasure Of The Sierra Madre" tops for 1948, naming "Hamlet" second and "Snake Pit" third.

•

METRO-GOLDWYN-MAYER will put 14 new pictures before cameras between January 1st and March 30th, making that studio one of the busiest in Hollywood (or Culver City, if you will). New program of accelerated production follows a series of conferences between L. B. Mayer and Dore Schary, studio's new production head. Plans call for seven or eight pictures to be in production simultaneously on the lot throughout 1949.

•

CLYDE DE VINNA, A.S.C., is in India investigating studio facilities, making tests of natives, and selecting locations for Oriental-International Company's forthcoming production of Rumer Godden's novel, "The River." Picture will be filmed on Eastman monopack and processed by Technicolor.

•

CHARLES CLARK, A.S.C., commenced his assignment of filming 20th Century-Fox's "Slattery's Hurricane" in the Florida hurricane country, where he photographed important sequences the early part of December. Finishing the location shots ahead of schedule, Clark arrived back in Hollywood in time to spend Christmas with his wife and family.

•

LLOYD KNECHTEL, A.S.C., absent a year from Hollywood, reported back the early part of December after completing the photography for "Alice In Wonderland," combination live action and animation feature produced in France. Entire production was filmed in Ansco Color, and in order that he might complete all the trick work, Knechtel had an optical printer shipped to Paris from the United States. The picture is slated for early release through the Rank organization.

•

ELMER DYER, A.S.C., is in the Veterans Hospital at Sawtelle, California, for treatment of a minor ailment aggravated by the rigors of his recent photographic assignment, which called for night flying in blinding fog to photograph effects of a FIDO (fog dispersal) system installed on a government airfield.

•

LEE GARMES, A.S.C., succeeded the late Gregg Toland as director of photography on "Roseanna McCoy" at the Samuel Goldwyn Studios, and carried out Toland's original ideas for shooting the entire picture with "pin point" lens apertures to obtain extreme depth of focus.

•

JOHN ALTON'S life is just one picture after another. This hard working A.S.C. member now shooting "The Crooked Way," has completed the photography on ten feature pictures within 14 months. A record.

•

THE FUNCTIONS OF the A.S.C. and particuluarly the importance of cinematography by its members has been revealed to the public on a number of radio programs originating in Hollywood during recent months. Both James Wong Howe, A.S.C., and John W. Boyle, A.S.C., have appeared as guest stars on Maury Web-

(Continued on Page 34)

. . . the cycle, and a panacea

"MUCH has been said the past several weeks about cutting the cost of motion picture production. Prominent film officials have been quoted as saying that salaries must come down, from star to the property boy.

"It has been intimated that if it is not graceful to cut existing salaries there will be made substitutions, wherever possible, of workers who are content with smaller salaries.

"The effect of rigid execution of such a theory if it is ever followed, remains to be seen. Perhaps the exercise of parts of the theories might bring wanted results. But there is one element in the cost of production that is seldom reckoned with, and that is the waste and loss of time. Few of the executive statements, which were published in the spirit of alarm by most of the press, took this important factor into consideration.

"Has the average executive ever stopped to compute how many dollars are lost to his organization because salaries and rentals were running on and mounting up because some company or companies working under his banner were marking time when they should be shooting? The loss thus occasioned includes within its scope the salary of not only one high-priced celebrity, but that of all the workers in the company."

Sound familiar? Well it just goes to show that conditions repeat themselves, in cycles. The foregoing was written in January, 1924, as the opening paragraphs of an editorial in the AMERICAN CINEMATOGRAPHER for that month, and reflects the troubled times besetting cameramen and studio workers 25 years ago.

Today, as then, the remedy for the producer's troubles lies not in cutting salaries nor in shuttering the studios, but in more economical production methods. That this has already been discovered is evidenced by a stirring of new production activity in many of the major studios.

★

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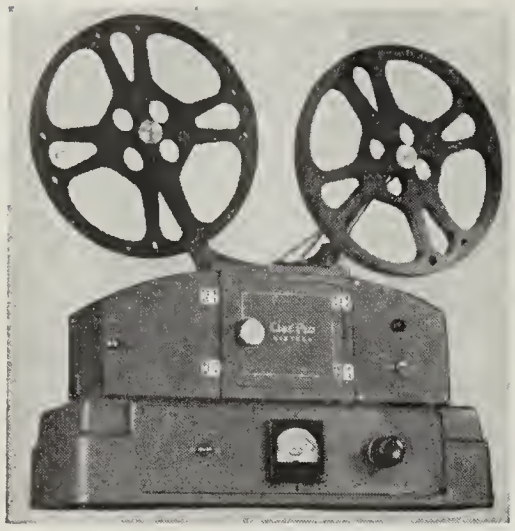
16mm. & 8mm. Section

PUPPETS STAR IN BUDGET TELE FILMS—*By Charles Loring* 17
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ON THE COVER

WILLIAM SNYDER, A.S.C., (in checkered shirt) looks on while director Henry Levin (back to camera) rehearses Larry Parks and Barbara Hale in a scene for Columbia Pictures' current production, "Jolson Sings Again," sequel to "The Jolson Story." Filmed in Technicolor, the picture is enhanced by the same outstanding photography which William Snyder contributed to "Loves Of Carmen," and "The Return Of October."

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1949 by A. S. C. Agency, Inc. AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.



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Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

Columbia

° WILLIAM E. SNYDER, "Jolson Sings Again," (Technicolor) with Larry Parks, Barbara Hale and William Demerest. Henry Levin, director.

• ARCHIE STOUT, "Greed," with Glenn Ford, Ida Lupino and Gig Young. S. Sylvan Simon, director.

• VINCENT FARRAR, "Night In Havana," with Desi Arnaz and Mary Hatcher. Jean Yarbrough, director.

• BURNETT GUFFY, "All The King's Men," (Robt. Rosson Prodn.) with Broderick Crawford and Joan Dru. Robert Rosson, director.

• HENRY FREULICH, "Secret of St. Ives," with Richard Ney; and Vanessa Brown. Phil Rosen, director.

• CHARLES LAWTON, "Hounded," with George Raft, Nina Foch and George Macready. Ted Tetzlaff, director.

Independent

• STANLEY CORTEZ, "The Man on the Eiffel Tower," (Allen & Tone) (Shooting in Paris on Ansco Color) with Charles Laughton, Franchot Tone, Burgess Meredith, et al. Irving Allen, director.

• LEE GARMES, "Roseanna McCoy," (Goldwyn-RKO) with Farley Granger and Joan Evans. Irving Reis, director.

• PHILLIP TANNURA, "Shamrock Hill," (Vinson-Equity) with Peggy Ryan and Ray McDonald. Arthur Dreifuss, director.

• GUY ROE, "Amazon Quest," (Agay Prodns.) with Tom Neal and Carole Mathews. S. K. Seely, director.

M-G-M

• GEORGE FOLSEY, "The Great Sinner," with Gregory Peck and Ava Gardner. Robert Siodmak, director.

• HAL ROSSON, "The Stratton Story," with with James Stewart and June Allyson. Sam Wood, director.

° CHARLES ROSHER, "Neptune's Daughter," (Technicolor) with Red Skelton and Esther Williams. Edward Buzzell, director.

• HARRY STRADLING, "In The Good Old Summer Time," (Technicolor) with Judy Garland and Van Johnson. Robert Z. Leonard, director.

• CHARLES SCHOENBAUM, "Highland Lassie," with Lassie and Edmund Gwenn. Richard Thorpe, director.

• ROBERT PLANCK. "Madame Bovary," with Jennifer Jones, Louis Jourdan and James Mason. Vincente Minnelli, director.

• JOE RUTTENBERG, "Forsyte Saga," with Greer Garson, Errol Flynn, Walter Pidgeon, Robert Young and Janet Leigh. Compton Bennett, director.

Monogram

• WILLIAM SICKNER, "Riverboat Rhythm," with Jimmie Davis and Veda Ann Borg. Derwin Abrahams, director.

• WILLIAM SICKNER, "Murder In The Air," with Roland Winters, Keye Luke and Elena Verdugo. Lesley Selander, director.

• HARRY NEUMANN, "Outlaw Marshal," with Johnny Mack Brown and Gerry Pattison. Ray Taylor, director.

Paramount

• GEORGE BARNES, "Samson & Delilah," (Technicolor) with Hedy Lamarr and Victor Mature. Cecil B. DeMille, director.

• CHARLES B. LANG, JR., "Easy Does It," with Bob Hope and Rhonda Fleming. Alexander Hall, director.

° LIONEL LINDON, "Top O' The Morning," with Bing Crosby, Ann Blyth and Barry Fitzgerald. David Miller, director.

• ERNEST LASZLO, "Manhandled," (Pine-Thomas) with Dorothy Lamour and Sterling Hayden. Lewis R. Foster, director.

R-K-O

° HARRY WILD, "Sam Wynne," with Martha Scott and Jeffrey Lynn. Will Price, director.

° ROBERT DE GRASSE, "It's Only Money," with Frank Sinatra, Jane Russell and Groucho Marx. Irving Cummings, Sr., director.

20th Century-Fox

• LEON SHAMROY, "Prince Of Foxes," (Shooting in Italy) with Tyrone Power, Orson Welles and Wanda Hendrix.

• RUSSELL HARLAN, "I Was A Male War Bride," (Shooting In Germany) with Cary Grant and Ann Sheridan. Howard Hawks, director.

• NORBERT BRODINE, "Hard Bargain," with Richard Conte and Valentina Cortese. Jules Dassin, director.

• LLOYD AHERN, "Mr. Belvedere Goes To College," with Clifton Webb and Shirley Temple. Elliott Nugent, director.

° ARTHUR ARLING, "You're My Everything," (Technicolor) with Anne Baxter, Dan Dailey and Anne Revere. Walter Lang, director.

• CHARLES CLARKE, "Slattery's Hurricane," with Linda Darnell, Veronica Lake and Richard Widmark. Andre DeToth, director.

• JOSEPH LASHELLE, "Come To The Stable," with Loretta Young, Celeste Holm and Elsa Lanchester. Henry Koster, director.

• JOSEPH MACDONALD, "It Happens Every Spring," with Ray Milland and Jean Peters. Lloyd Bacon, director.

• MILTON KRASNER, "East Side Story," with Richard Conte, Susan Hayward and Edward G. Robinson. Joseph Mankiewicz, director.

United Artists

• ERNEST LASZLO, "Impact," (Popkin-U-A) with Brian Donlevy and Ella Raines. Arthur Lubin, director.

• GILBERT WARRENTON, "Dan Patch," (Frank-U.A.) with Dennis O'Keefe and Gail Russell. Joe Newman, director.

• FRANK PLANER, "Champion," with Kirk Doulgas and Marilyn Maxwell. Mark Robson, director.

• JOHN ALTON, "The Crooked Way," (Bogeaus-UA) with John Payne, Ellen Drew and Sonny Tufts. Robert Florey, director.

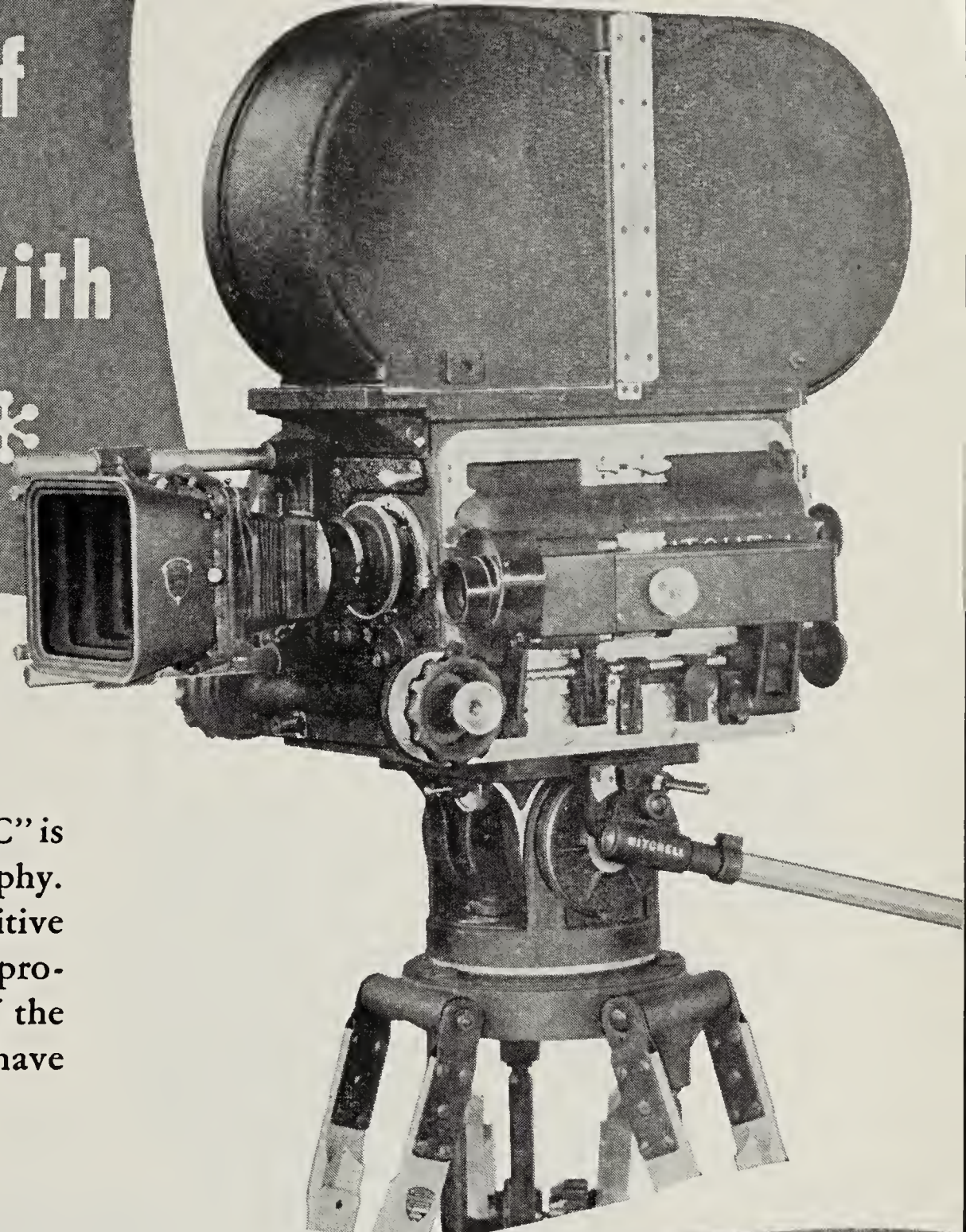
• LESTER WHITE, "The Daring Caballero," (Inter-Amer. Prodns.) with Duncan Renaldo, Leo Carrillo and Kippee Valez. Charles Barton, director.

Universal-International

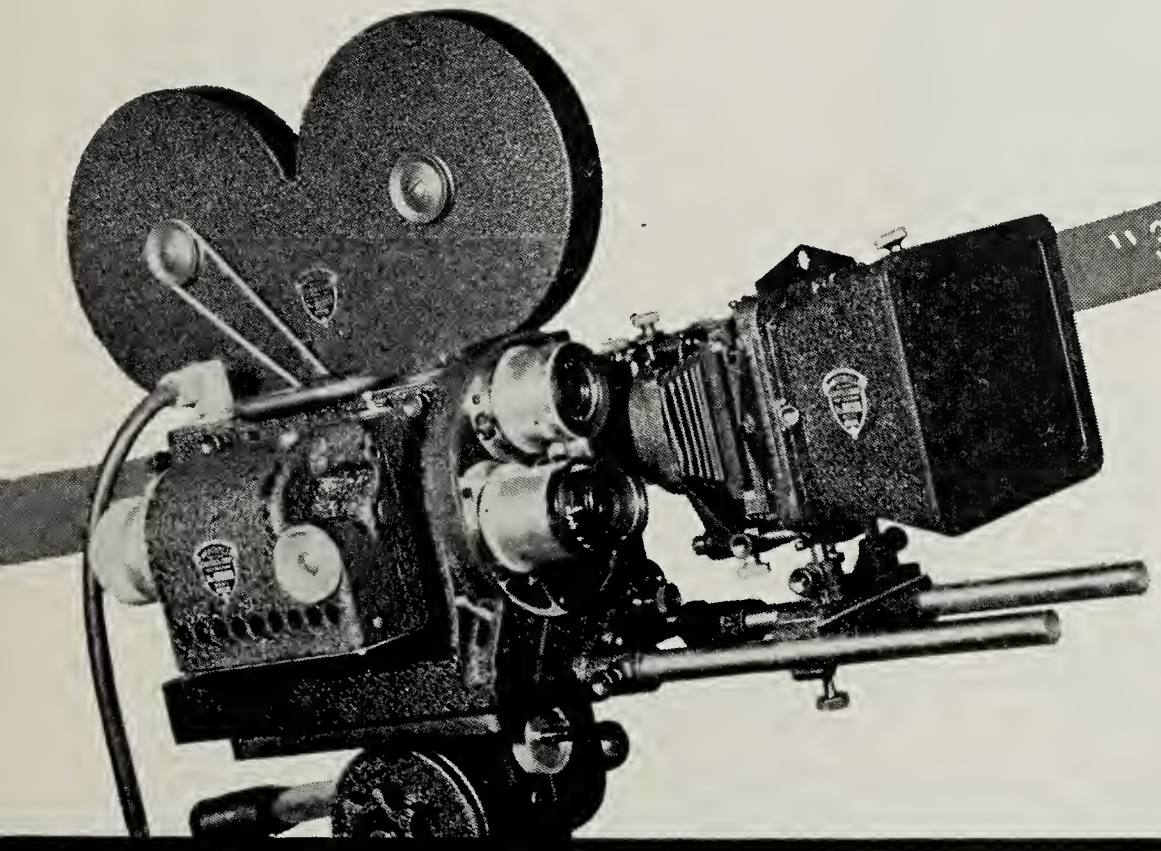
• MAURY GERTSMAN, "Ma And Pa Kettle," with Marjorie Main and Percy Kilbride. Charles Lamont, director.

(Continued on Page 34)

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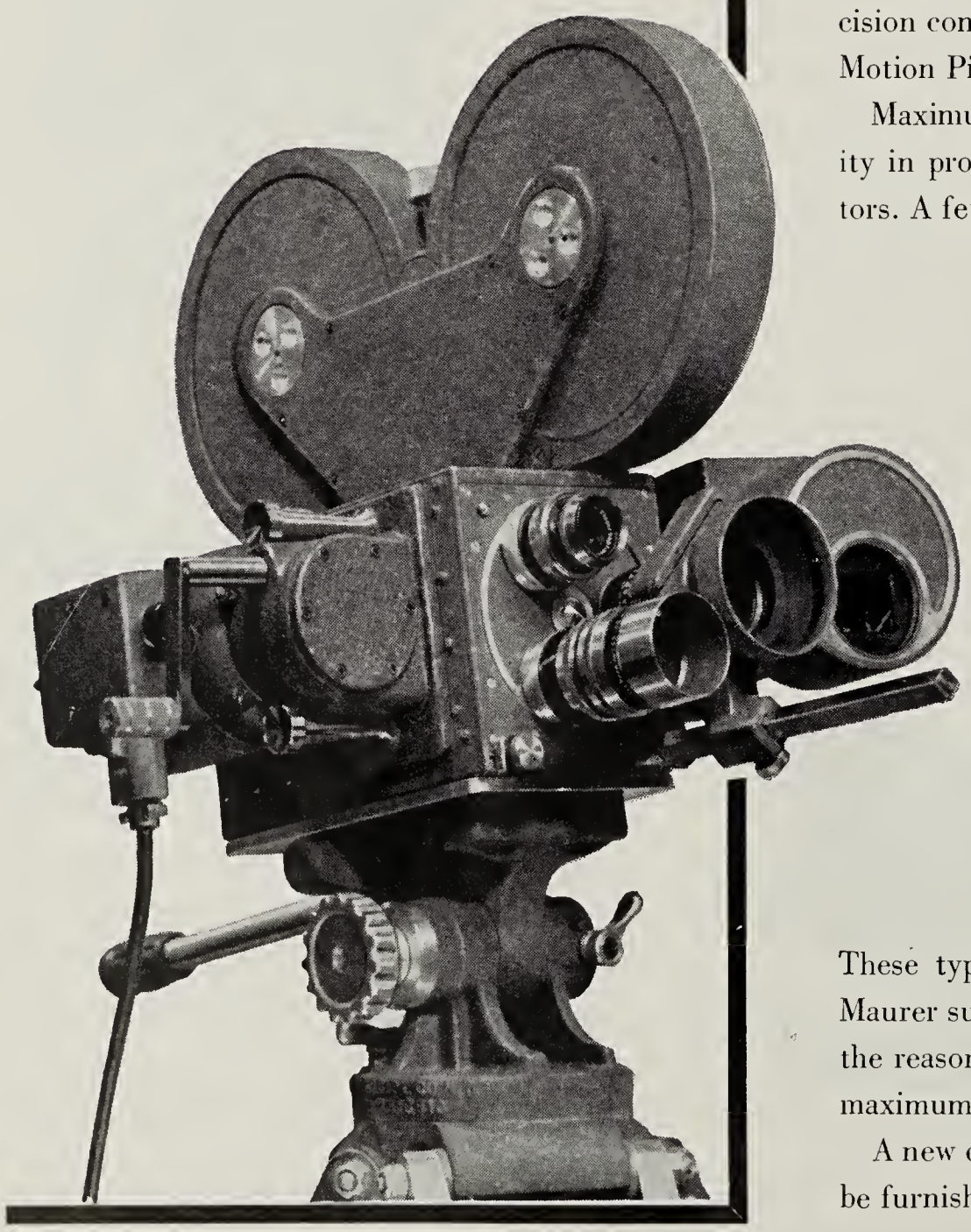
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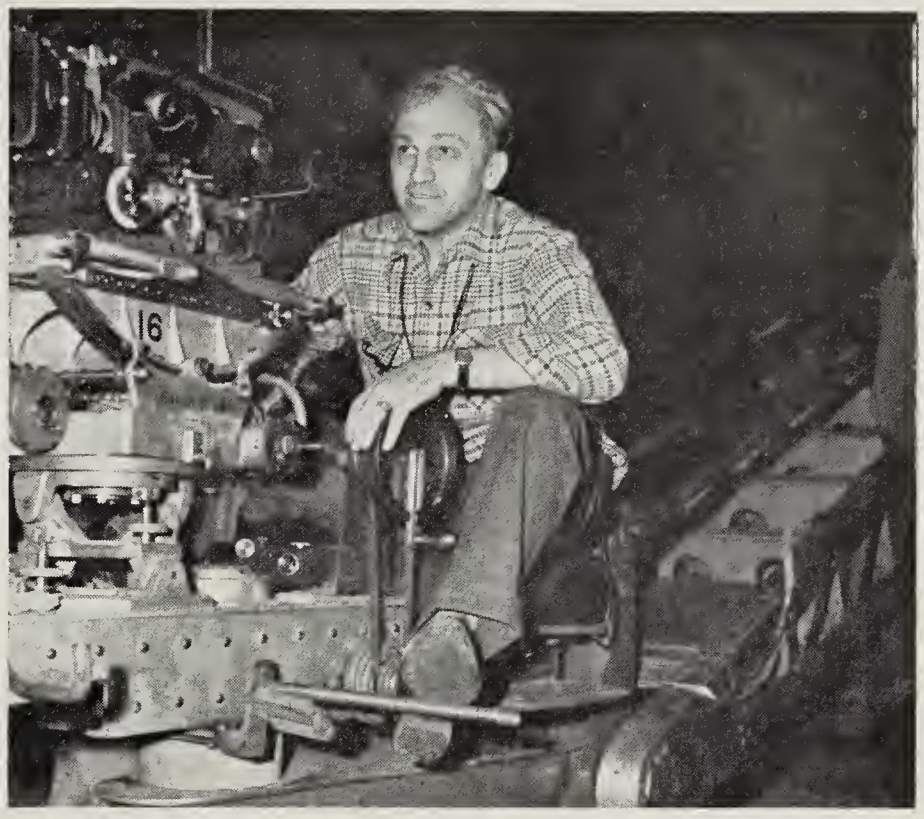
Professional Motion Picture Cameras and Recording Equipment for the Production of Industrial, Educational and Training Films

AMERICAN
JANUARY **Cinematographer** 1949

THERE ARE NO secret formulas for the photography of films for television. Actually, what constitutes clear, straightforward photography for theatrical motion pictures is the type best suited for television. This is aptly demonstrated, I believe, in the series of filmed commercial announcements for Westinghouse Electric Company which I recently photographed for Roland Reed Productions. We used basic lighting and camera techniques and the results on video screens have been declared far superior to live commercials produced in the television studios.

A great deal has been said—and written—about the role motion pictures will play in advancing television to the stage where it will pay its way. Already, however, motion pictures have demonstrated their importance as the logical medium for the spot commercial announcement, combining actual demonstration of a product or article with the sponsor's narrated message.

Were it not for human fallibility to "fluff" a line or routine occasionally, and invariably at a most critical moment, perhaps this new enterprise of producing filmed commercials for television might never have begun. Whereas "fluffs" on radio are less objectionable and quite often go undetected by the listener, they are dynamite to television where the audience sees all as well as hears it.



WALTER STRENGE, A.S.C., used the same camera and lighting equipment for photographing the series of one minute spot commercials, plugging Westinghouse's new Laundromat, as used in standard studio film production. Shot with a Mitchell 35mm. camera, the films were reduced to 16mm. for pickup by the television camera.

Photographing Films For Television

To appreciate the value of the filmed television commercial, one need only to imagine how ridiculous an advertiser would be made to appear if a video demonstration of, say, chip-proof glassware accidentally produced a chip or broke in actual demonstration before the live television camera. So, to insure against such accidents, more and more product demonstrations are being carefully rehearsed and recorded in motion pictures, then televised from film.

(Continued on Page 26)

Filmed spot announcements for TV sponsors set pattern for wider use of films in television. Here are some facts about their production revealed by a man who has photographed them.

By WALTER STRENGE, A.S.C.



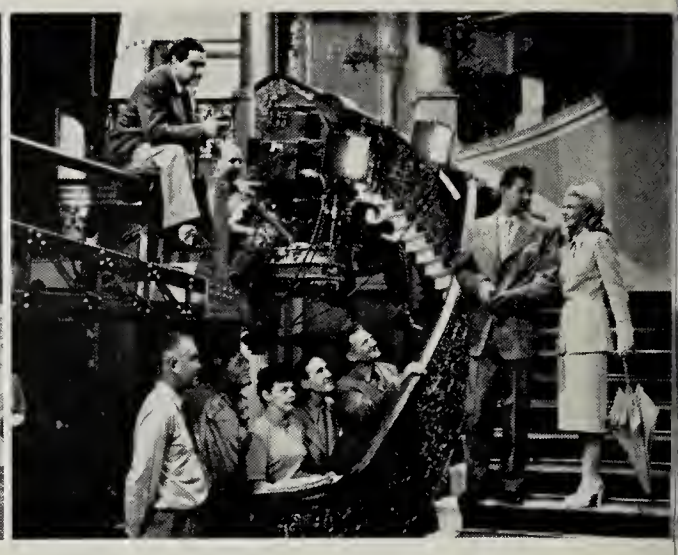
THREE frame enlargements from series of spot announcement films produced by Roland Reed for Westinghouse Electric Co. The first shows typical lighting demanded for television films while center frame illustrates the tight closeups of products or demonstrations necessary for maximum results on video screens. Third frame illustrates a major advantage of filmed commercials—the sponsor's message superimposed over live action which adds further visual impact to the presentation.
—Photos courtesy Roland Reed Productions



SHOOTING a Mack Sennett comedy, circa 1918, using hand cranked Bell & Howell camera and Cooper-Hewitt mercury lights. Fred W. Jackman, A.S.C., is directing the scene.



ADVENT of sound saw first general use of mobile camera. Shown here is one of the first camera dollies. Note inky floodlights and the improvised blimp for camera.



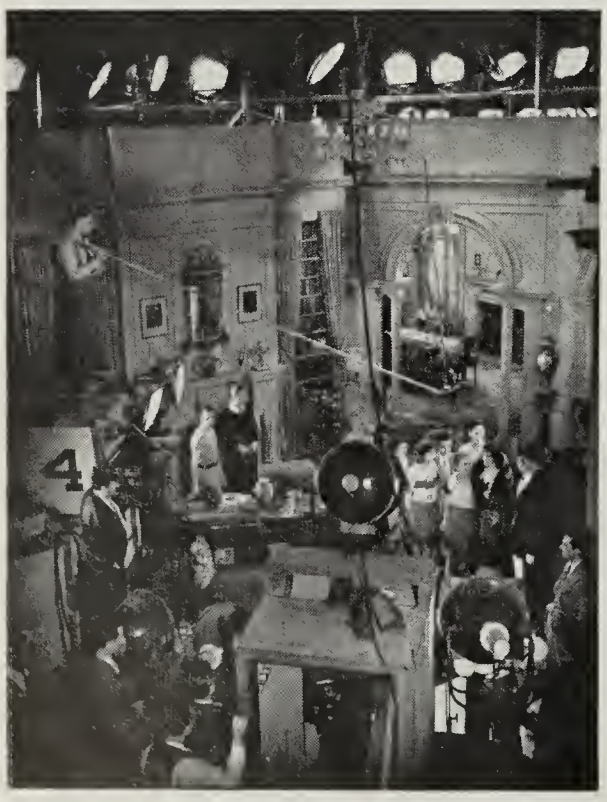
SCOPE of cinematography was greatly broadened with development of the camera crane, which gave impetus to the moving camera technique. (V. Farrar, A.S.C., behind camera.)

Changing Trends In Cinematography

Ever since the days of Mack Sennett comedies, directors of photography have successfully adapted camera techniques to meet demands of changing trends in movie entertainment.

By HERB A. LIGHTMAN

IN THE NICKLEODEON days of the motion picture industry, when cameras were cranked by hand, cinematography was not thought of as an art. Even the cameraman who cranked the camera considered it a purely mechanical process for getting an animated image onto film. Such words as "style" and "technique" had not yet become studio parlance, and the cameramen were much too concerned with sunlight and exposure to worry about any possible esoteric undertones that showed up in their camerawork.



BEFORE days of camera blimps, cinematographers operated cameras from within soundproofed booths when shooting scenes for "talkies." Called "sweatboxes" by the cameramen, booths were unventilated, unwieldy and destined for early discard. Note "human mike boom" atop one booth.



COMPARE this scene with one at left. Here three Mitchell cameras, soundproofed with blimps, are shooting a scene for "The Paradine Case," photographed by Lee Garmes, A.S.C. Mike placement has been greatly simplified by use of latest type multi-directional boom equipment.

When the motion picture began to evolve from the sideshow stage and acquired a certain dignity as an accepted form of entertainment, the cameramen had time to take a deep breath and examine the methods they were using. There had been a great deal of trial and error on the sets, and now most cameramen were able to establish a technique by standardizing the methods that worked and discarding those that didn't. They developed working formulas on the assumption that if you did thus and so, the result would be thus and so.

But this new-found technique still remained an almost purely mechanical thing. While it was granted that acting and direction might be characterized by a certain style, camerawork was not thought of as having any aesthetic potentialities of its own. The camera was merely there to record the action, and the cameraman to run the camera.

It was about this time that the late D. W. Griffith decided to produce his immortal "Birth of a Nation." His creative imagination soared beyond the limits of the established camera technique of that day. He wanted to produce a film of epic proportions, and he knew that in order to capture the scope of his screen story on film he would have to create a new scope for the hitherto limited camera. He developed the close-up, an unheard of angle, to bring his audience



MORE recently, the helicopter has been used to augment the camera crane in obtaining smooth trucking shots from higher elevations. Paul Ivano, A.S.C., used one for "Johnny Belinda."

close to the players and their emotions; he put the camera on a wagon and used moving-camera shots to follow the fluid action which he staged; he used angle shots to give his scenes perspective and point-of-view. The sum total of his camera approach to this film amounted to a veritable artistic revolution within the motion picture industry. No longer was motion picture photography a robot process; it now became an *art*.

Since that time, the art of cinematography has developed to the point where it ranks with the most important crafts of motion picture production. The Director of Photography holds the unique dual position of artist-technician (with emphasis on the *artist*). The industry, becoming conscious that art in the motion picture was inseparably bound up with mechanical processes, established the Academy of Motion Picture Arts and Sciences to promote technical research and establish mechanical standards for the industry.

Meanwhile, the cameramen, resolving to develop the art of the camera to its fullest, founded the American Society of Cinematographers, one of the prime functions of which was to promote individual and group research amongst the cameramen themselves. Moreover, the results of this experimentation were to be used for the betterment of the profession and the motion picture industry as a whole. Down through the years the men of A.S.C. have upheld this resolve and have worked tirelessly to develop motion picture photography to the precise art that it is today.

It is interesting to note the changing trends in cinematography which have taken place since photographs first began to move. Many of these have been purely mechanical, spurred on by technical prog-

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From Music To Movies

William Snyder, A.S.C., abandoned a promising musical career to become a cinematographer. Meet the cameraman on the cover, currently photographing "Jolson Sings Again."

By ARTHUR ROWAN

NO ONE who has witnessed the superb photography of "Loves Of Carmen," will deny its potentials as an Oscar winner in the color photography division, when Academy Awards are announced next March. And the man who very likely may be called to the rostrum to receive that Oscar is William Snyder, A.S.C., who currently is lending his Technicolor artistry to the Columbia Pictures' production, "Jolson Sings Again."

An Oscar winner or not—and there's some pretty stiff competition this year—there can be no denying that Snyder's name belongs among those at the top of the list of ace Technicolor cinematographers. And for good reason. Snyder was for ten years one of Technicolor Corporation's top cameramen.

Bill Snyder got into the profession of cinematography quite by accident. Years ago he came out to Hollywood from New York to spend a six weeks vacation and stayed six years. Friends had urged him to give up his musical career and get into the picture business. One introduced him to John Arnold, at M.G.M., and within a short time Snyder was employed loading cameras there. It must have been his natural artistic instincts that led to his taking an interest in photography, for it wasn't long before Snyder had worked his way up to second cameraman, assisting on such productions as "The Floradora Girl," and "The Thirteenth Chair."

(Continued on Page 22)



WILLIAM SNYDER'S impressive camera work marks many of Columbia Picture's recent outstanding Technicolor productions. Here, standing at right of camera, Snyder watches Larry Parks and George Macready enact a stirring sword battle for "The Swordsman." Parks also stars in Snyder's current picture assignment, "Jolson Sings Again."



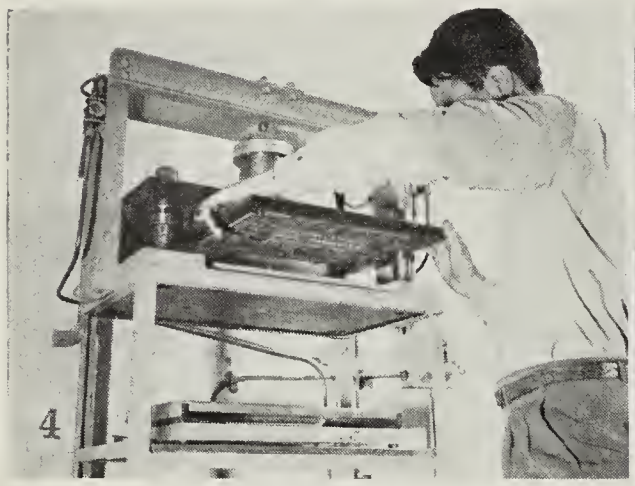
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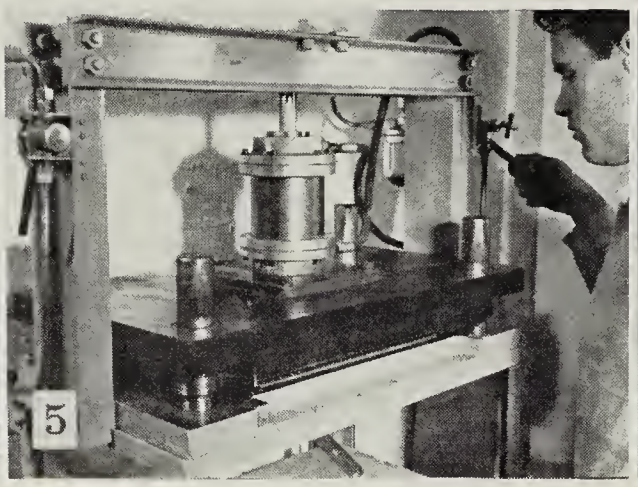
. . . then locked in chase,



. . . pre-heated to set the ink,



. . . type is placed in press,



. . . the impression made,



. . . then printed title photographed.

ABOVE photos show steps in printing and photographing titles in Telefilm's new film caption plant, which boasts most modern equipment of its kind. The layout features unique type pre-heater, vertical pneumatic press and centralized camera controls.

Modern Title Making

How one company is meeting the demand for low cost titles for television films with modern equipment that insures top quality photography.

By NORMAN KEANE

THE PHOTOGRAPHY of titles, while somewhat of a routine procedure as compared to cinematography on studio sets, is nevertheless an exacting science. There's plenty the cameraman must know about lights and shadows, about focus and lenses and color contrasts and harmony in order to produce the crisp, sharp titles demanded by the motion picture industry today. And if well-lighted, sharp titles are a must for feature motion pictures, they are doubly so for television films, where some slight loss of definition necessarily take place in transmission.

There's more to making titles than the photography, of course; but unless the original copy has definition and contrast and is well balanced for color, where the title is to be photographed in color, there isn't much the cameraman can do about it. In order to bring all phases of title making under one roof, where both the composition and photography may be closely supervised with the end result in mind, Telefilm, Inc., Hollywood, who specializes in titles for 16mm. film producers, has installed a complete title making department in its recently constructed annex on Hollywood Boulevard. Probably the most modern and efficient department of its kind, it includes a pneumatically operated, vertical hot press capable of handling main, sub and credit titles, text for commercials, newsreel type captions and superimpositions, producing sharp images on either celluloid or cardboard.

The press was designed and constructed by Telefilm's engineers for precision production of title cards that photograph with maximum sharpness and definition. The whole department, of course, is laid out with an eye for speedy production of titles at low cost, which the makers of television films demand. The title department is laid out so efficiently that one man can operate it with a minimum of lost motion. In the department are cases of modern type faces, heater and press—all within a step of each other, yet there's ample room for several employees to work there, if necessary.

The selection of type faces is such that it is possible to provide a wide variety of title styles, including shadow effects for mains, far cheaper than where title cards are lettered by hand. Once the title text is composed, it is locked in the conventional chase (Fig. 2), such as used in print shops, then placed in a thermostatically controlled, specially designed heater (Fig. 3). Unlike with ordinary printing, best title card impressions result where the type is first heated and special pigments provided—a practice in general use throughout the industry. But Telefilm has modernized the procedure, as may be seen by studying the series of photos above.

The impression method is similar to that used in applying gold lettering to leather goods. The heated type and chase

(Continued on Page 27)

IT APPEARS that to reproduce color one would have first of all to know all about color. However, just as in black-and-white photography, the applied art seems to have flourished remarkably and developed its practical methods toward more perfect results without too much worry about the many question marks, which still make those concerned with photo-reproductive theory wonder about the true nature of its fundamentals.

The fact that we resort to at least three different theories explaining the phenomena of light, the electro-magnetic, the corpuscular and the quantum theories, instead of a single one, is sufficient proof that we are still groping for basic truths. The science of color presents not only an alarming number of difficult questions relating to pure physics. A large part of what we know of color reactions defies explanation through an approach by physics. It can only be properly understood, described and classified as psycho-physical and as psychological phenomena or as color sensations.

The recognition of the fact that by mixing three primary colors, red, green and blue-violet, in different proportions any other color can be obtained or



TECHNICOLOR cameras, such as one shown here photographing a scene for "Mother Was A Freshman" (under guidance of Art Arling, A.S.C.), today render the most faithful reproduction of color in motion pictures. The technical development of color processes has been mainly along the line of slow and steady progress in perfecting rather early conceived principal methods, as may be seen when studying the history of the Technicolor process.

Color And Color Reproduction

Color as a science has a rather complex structure. The study of its psychophysical and psychological phases offers a new and very large field to the progressive cameraman.

By DR. HERBERT MEYER
Motion Picture Research Council

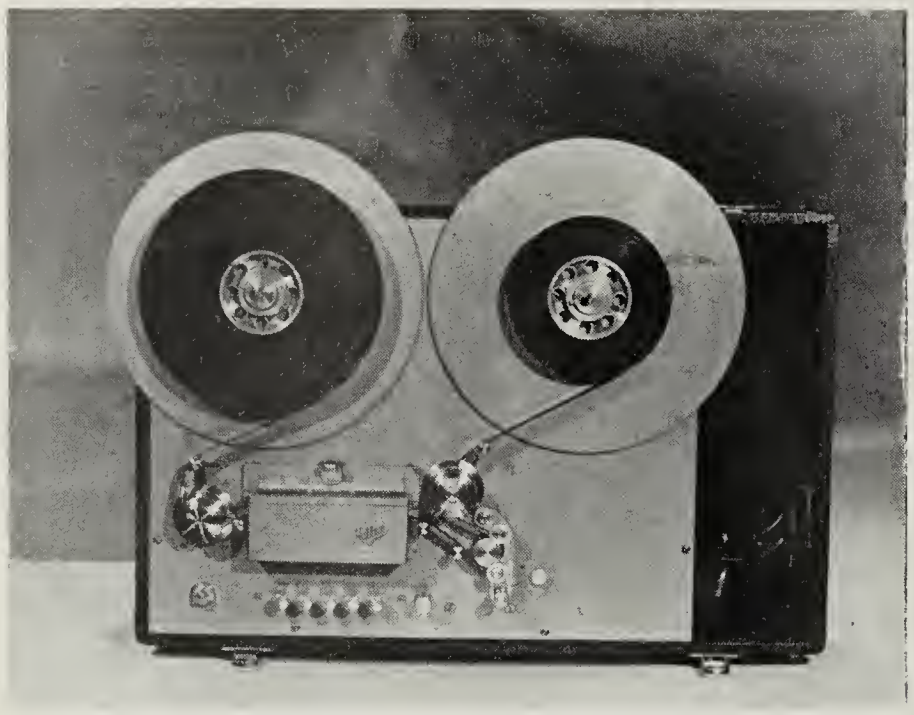
matched, had slowly grown out of the practical experience and observations of early painters. It became the lasting contribution of Thomas Young to furnish accurate experimental proof and formulate it into a basic law, which in consequence seemed to require the assumption that the human eye must be equipped with three receptors, each sensitive to only one of the primary colors. This theory although physiologically not at all proven, has furnished the foundation upon which color photography has been begun and developed.

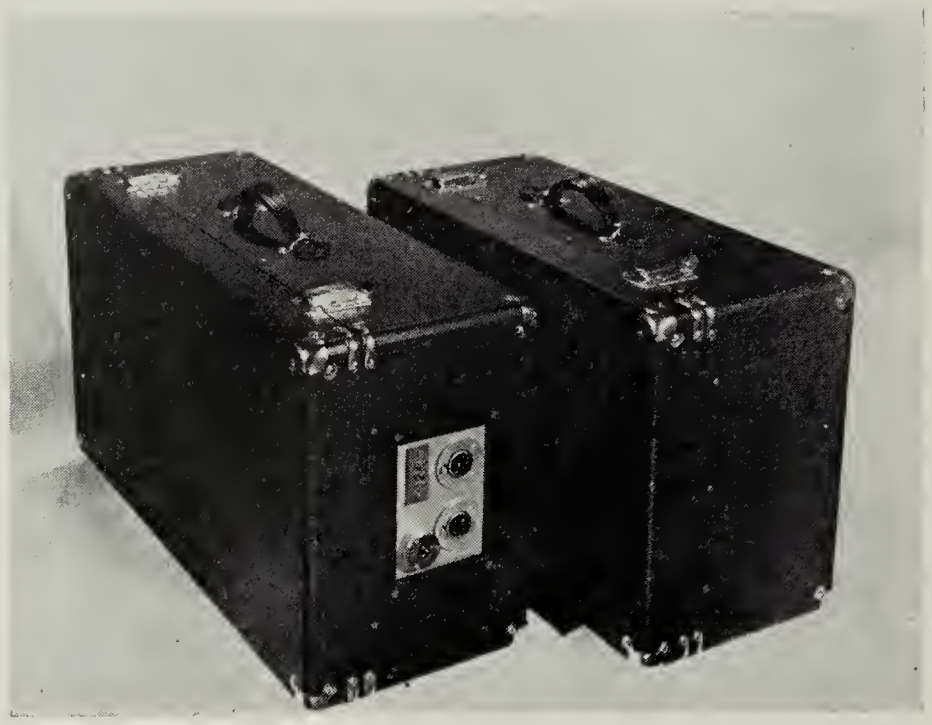
The additive primaries, of which little can be said as to their physical properties since color itself is not a substance but a sensation, have certain characteristics which distinguish them from other colors. One is that none of them can be matched by any two other colors. A further observation is that all three primaries, when mixed additively, result in the sensation of white. From this follows that the additive mixture of two of the primaries is, in each instance, complementary to the third primary, since we also know that complementary colors are colors which when additively mixed will result in white.

The colors of the three complementary or secondary primaries which we use in synthesizing the color print when practicing the subtractive process are: Cyan, complementary to primary red; Magenta, complementary to primary green; and Yellow, complementary to primary blue-violet. It, therefore, follows that cyan must be the same as the additive mixture of primary green and blue violet, which as was stated, is also complementary to red. This explains the often used other name for cyan, which is minus red. Similarly, it follows that magenta must be the same as the additive mixture of primary blue-violet and red and is, therefore, called minus green. Last, yellow must be equal to the additive mixture of red and green and is accordingly named minus blue (blue-violet).

The two fundamental processes used for photographic color reproduction are known as additive and subtractive methods. In making the negative exposure, in order to obtain color separation negatives, identical primary color filters can be used for either method. These filters are practically standardized as red filter A (dominant wavelength 610 millimicrons), green filter B (dominant wavelength 546 millimicrons), and blue filter C-5 (dominant wavelength 649 millimicrons). The eye can not distinguish the individual components in a color mixture, which is rather advantageous in color reproduction since it makes it permissible to use filters or dyes which transmit relatively wide or widely separated bands, instead of one narrow-banded, monochromatic hue. The dominant wavelength of a filter, therefore, represents the mean hue trans-

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BOASTING a recording range from 40 to 10,500 cycles, plus or minus 2 db., this precision-made recorder has built-in monitoring facilities, uses slit 35mm. oxide coated film perforated for the recorder's sprocket drive.

PORTABILITY and light weight are salient features. Recorder and amplifier are housed in two handsome leather-covered carrying cases. Net weight of both is ninety pounds.

A Synchronous Magnetic Recorder

The new Hallen recorder may be synchronized with any 35mm. or 16mm. synchro-motor driven camera; records sound on perforated, oxide coated 17½mm. film.

By RALPH LAWTON

THE SWIFT development of magnetic recording during the past few years has opened up vast new possibilities in the field of sound recording for motion pictures. Today it is possible for the explorer, the lecture film producer and makers of industrial, newsreel and television films—even Hollywood studios—to record sound for films never before feasible with cumbersome optical sound equipment. Magnetic recorders, being compact and in most cases portable, can be easily transported along with camera equipment to the most remote and heretofore virtually inaccessible spots. For western location filming they are ideal.

The Hallen Corporation, of Burbank, California, headed by Len Roos, A.S.C., has pioneered in the development of magnetic sound recorders for use in the production of motion pictures, and now has a portable magnetic recorder in production which records sound on oxide coated film 17½mm. wide with standard perforations. One of the first recorders to use perforated film, it affords fully synchronized sound, may be operated in synchronization with any 35mm. or 16mm. synchro-motor driven cameras.

Roos, in addition to being an ace cinematographer of many years' experience, is also a pioneer in the field of sound recording. In 1929 he designed and began manufacturing and distribution of the Tanar single system optical film recorders which were sold the world over. Having travelled far and wide during his career as a photographer, during which time he produced motion pictures with all kinds and types of sound equipment, Roos knows from actual experience the location photographer's problems and how well portable magnetic recording fits his needs.

In addition to many years of research on magnetic recording, Roos spent more than a year in engineering the Hallen recorder to its present state of perfection. The recorder is now in production and despite the meager rumors of its existence emanating out of Hollywood —Roos preferred not to announce it until all was in readiness for uninterrupted production—the Hallen Corporation already has orders on hand from cinematographers and film producers in South America, Philippines, Alaska, Israel, Italy and China. James Wong Howe, A.S.C., will use one when he resumes production of "Rickshaw Boy" in China next year.

The complete recording unit, which is pictured on this page, comprises the recorder and amplifier, each in its own durable, leather-covered carrying case. Total weight of the two pieces is ninety pounds. The recorder is ruggedly constructed and designed to operate with high precision in any clime and under any conditions. Roos has concentrated on the perforated oxide coated film as the medium for recording because it affords the only means of assuring absolute synchronism. Unperforated tape recorders present problems of slippage in the film transporting mechanism, which cannot occur where perforated film and sprockets are used. The precision machining of parts is also an important factor contributing to the quality of magnetic recording, and

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Better Pictures
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Will Be
Photographed
In Black and White
And In Color
With a Wide Range Of
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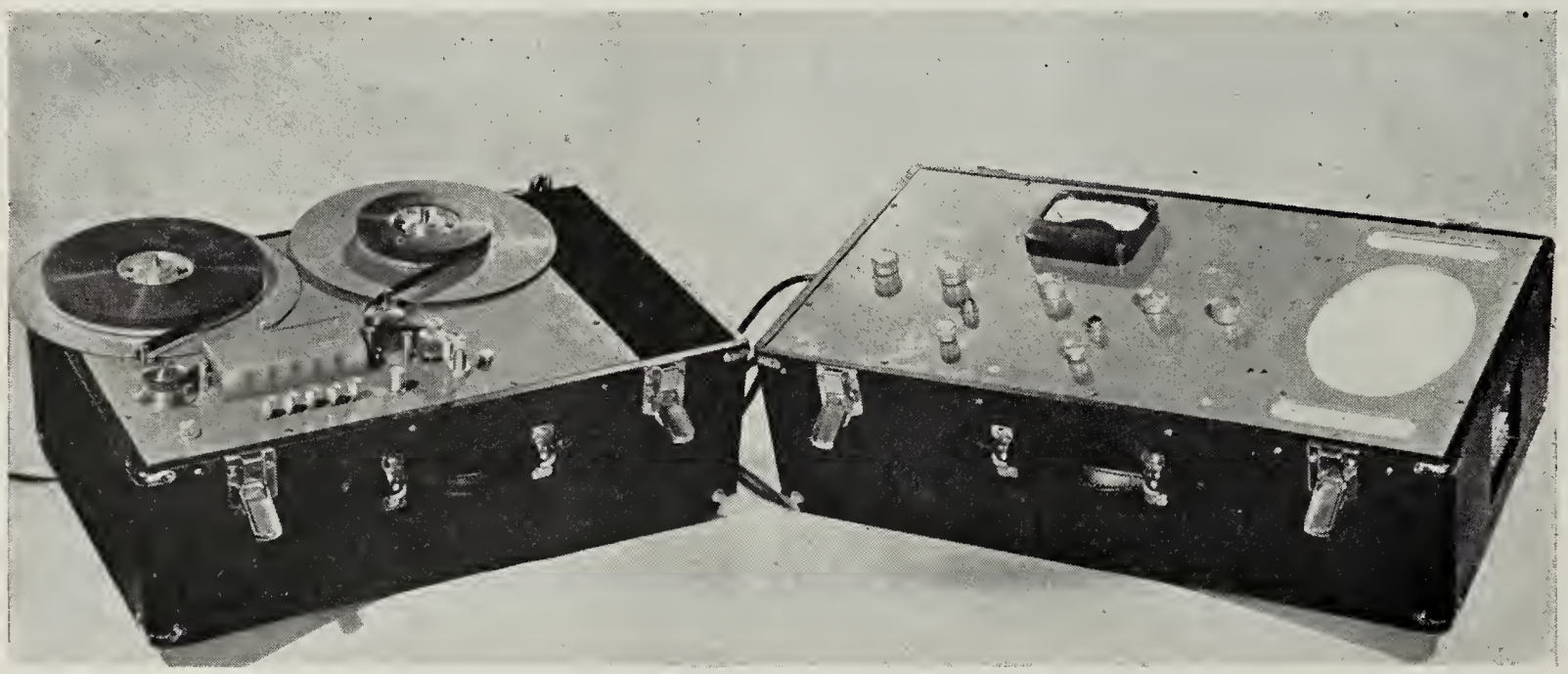
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Puppets Star In Budget Tele Films

Use of marionettes points way to economical production of program and spot commercial films for television.

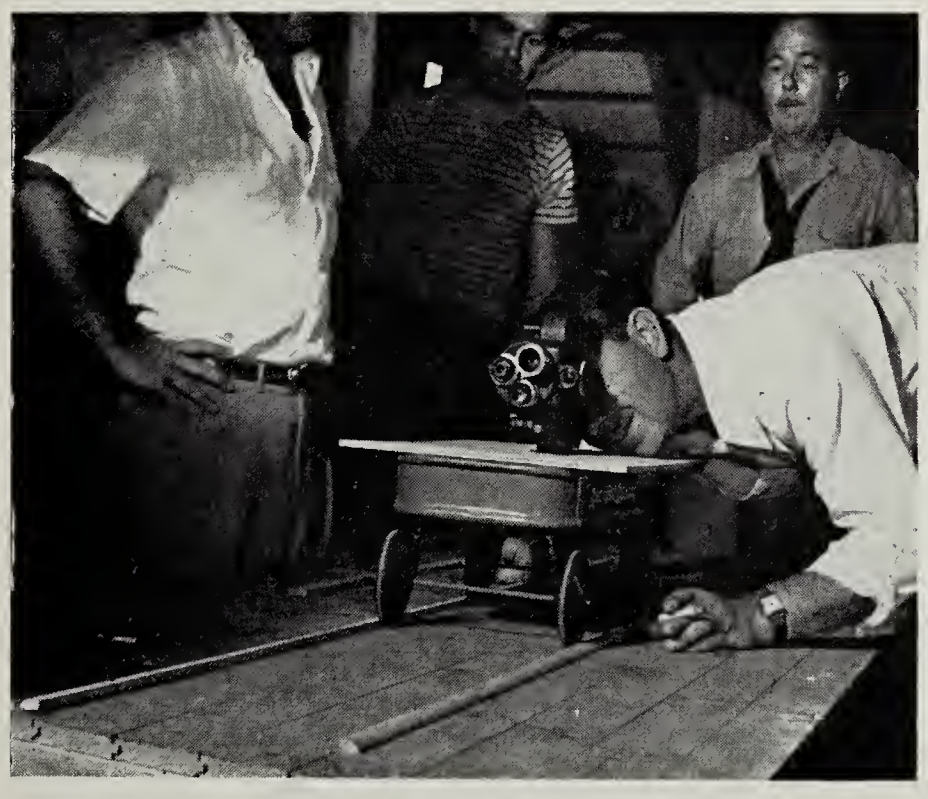
By CHARLES LORING



LIGHTING of puppets and the miniature sets required extreme care to achieve proper contrast without "burning out" the features and costumes. Multiple shadows had to be avoided and the strings manipulating puppets obscured by corrective lighting.

THE TELEVISION race is on! In the canyon-like streets just off New York's Times Square and along the palm-shaded avenues of Hollywood, more and more production units are setting up shop to meet the demands of the nation's newest and most exciting entertainment medium: television.

It is a medium that has enormous potentialities, but which also represents a definite challenge to technicians switching from stage, screen or radio. Until television receiving sets are as numerous as present-day radios, the main problem for the producer will be to provide top-grade entertainment at a cost that is not prohibitive to the sponsor. This axiom applies also to the playlets or other visual presentations that will replace the "spot commercials" of radio. These commercials must be original, lively enough to catch and hold audience attention, technically smooth, and inexpensive enough to be commercially feasible.



EVEN the camera dolly had to be a miniature. No standard camera truck would do for the dolly effects, so a toy wagon with a 16mm. Filmo mounted upon it was employed for making highly effective mobile camera shots.

A type of commercial that meets all these requirements and a few more was previewed in Hollywood recently when Sentinel Productions sponsored a presentation showing of a short film with a cast made up entirely of puppet "actors." This highly original and thoroughly entertaining commercial short subject features the Music Box Puppets, created and manipulated by Don and Ivy Wilson of Laguna Beach, California.

In order to film this sample television commercial, a crew of seasoned Hollywood technicians motored down to Laguna Beach and took over the auditorium of the local high school, converting it into a sound stage for the puppet thespians. The motif of the film was adapted from the miniature circus, which for several years has been the Wilsons' most popular routine. It features clowns, tight-rope walkers, elephants, a tap-dancing character named Ring-Tail Pete, and a violin virtuoso who plays "Intermezzo."

The picture was filmed on Commercial Kodachrome with an unblimped Bell & Howell 70DA camera. The sound was recorded directly during filming by means of a tape recorder and was later re-recorded onto film for printing with the picture. The recording microphone was placed high in the proscenium of the miniature stage where it picked up the voices of the puppet characters as produced by Don and Ivy Wilson. Special shields were used to keep the microphone from picking up any noise from the camera.

(Continued on Page 24)



TO INSURE successful takes, author Tompkins attached a check list to back of camera which he followed religiously before starting the camera each time. Thus he insured that every shot, many which were impossible to duplicate, was properly focused, correctly exposed, and the motor spring wound for a capacity run if necessary.

Filming The Harvester Ant

Rare educational film on ant life photographed with 16mm. camera fitted with extension tubes and homemade gadget for determining focus at close range.

By WARWICK TOMPKINS

"NO ONE has ever made a color film about ants. Why don't you?"

That remark by a natural scientist was tossed into the ocean of my ignorance of micro-photography six months ago. It resulted in the single-reel 16mm. Kodachrome picture *Life of the Harvester Ant (Part one)*.

Why no one else had ever made such a film before became clear as soon as I tackled the problem. Even if a cameraman had all the backing and equipment of a major studio, he might have been balked by some of the difficulties I encountered.

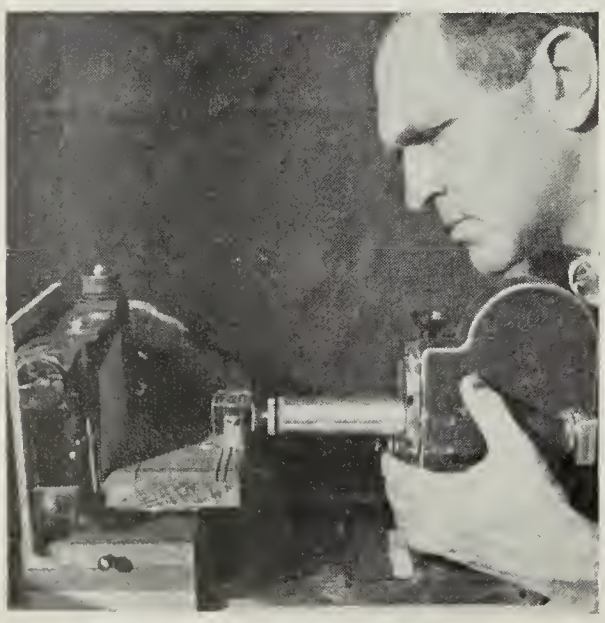
For equipment I had a Paillard-Bolex 16mm. camera, a not-too-steady tripod designed for a still camera, one 500-watt spotlight and enough photofloods to blow every fuse in the house, whenever I was thoughtless enough to switch them all on at once.

The chief actors in my picture were red ants commonly found throughout the Southwest. Scientists know them as Pogonomyrmex, a term they have sensibly reduced to Pogy. As ants go, Pogy is large (1/5th of an inch in length), and "relatively sluggish," to quote the text books. These virtues, as well as their color, recommended them as did the helpful fact that Pogy cannot climb glass or other smooth surfaces.

Several weeks of experimentation made a number of facts exceedingly clear. The "relatively sluggish" Pogy moved so fast that an ant would enter a scene and be out of it in the space of single frame of film. Ergo—to get anything on the film, slow-motion speeds would have to be used. Nor was Pogy amenable to direction, coaxing, bullying or threats. It was going to take a heap of shooting to secure scenes that could eventually be whipped together to form a meaningful film subject.

Shortcomings in an otherwise excellent camera had also been discovered. Seen from a distance of 18 inches—the closest "close-up" possible with a one-inch lens and a Bolex finder —Pogy was merely an animated dot in a huge field. How could she be photographed closer?

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TOMPKINS rigged up an adjustable stage for his ant actors, using part of a war surplus bomb sight to effect minute vertical and horizontal adjustments of stage. Ants were confined in glass cubicle before lens.



TO INSURE accurate focus in photographing ants an inch or two from the lens, Tompkins made a series of pointers which he attached to camera lens. Pointer indicates center of field, is moved out of range when making shot.



HERE Tompkins shows how he used mirrors to reflect sunlight on his tiny subjects. All shooting was done in daylight because the use of photofloods created too much heat, aggravated the ants to a frenzy.



Sound Kodascope Projector is supplied in two models—FS-10-N (pictured above) and FB-40 (below). The FS-10-N, with an amplifier output of 10 watts, is for use in homes, clubrooms, small-sized auditoriums. The 40-watt output of the FB-40, readily reined in for these uses, is especially suitable for showings before audiences of thousands.

The features detailed below—integral with both models—are those that help to make the Sound Kodascope Projector top choice of those who demand the finest in sound projection for showings before small groups or large.

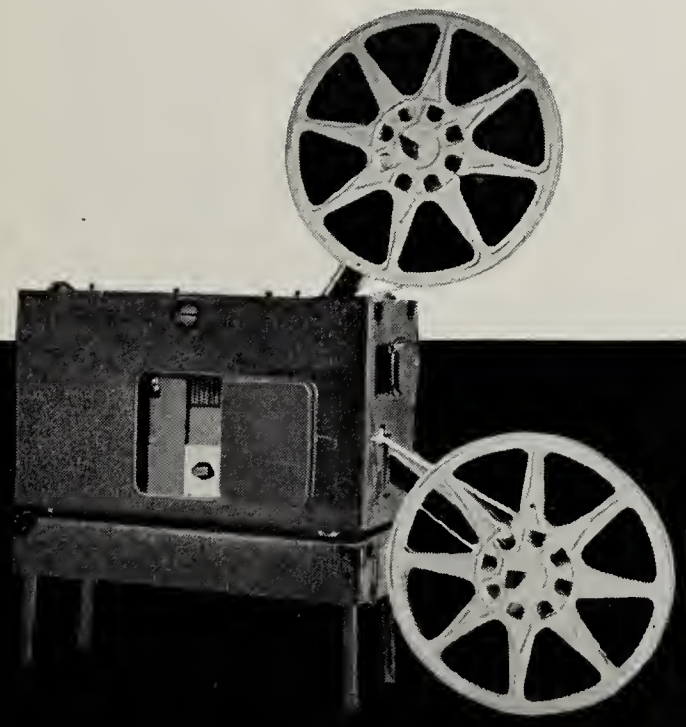
Fidelity Control—A flick of your finger focuses the scanning beam, "picks out" the sound track with hairbreadth accuracy, whatever its position or whatever the type of 16mm. sound film used—original, "dupe," or reduction from 35mm. Operated at high- or low-volume levels . . . straight sound projection, or mixed with music or commentary . . . the tonal output is always crisp, always distinct.

Superb optical system—A precision-made *f*/1.6 *Lumenized* lens teams with a powerful 750-watt lamp to provide sharp and brilliant images under average projection conditions. And a choice of several fast accessory lenses, ranging from 1 inch to 4 inches, makes possible a wide variety of screen sizes and projection "throws."

Easy showings—Everything but film and the screen is "suitcase-handy." Controls are centrally located . . . easy to operate. Wide-opening film gate and positive latches simplify threading. 2000-foot reel capacity makes possible sound showings almost an hour long without a reel change . . . silent showings even longer.

See them demonstrated—at your Kodak dealer's. Prices: FS-10-N Projector, with single speaker, $500; with twin speakers, $565. FB-40 Projector, with twin speakers, $855 . . . Eastman Kodak Company, Rochester 4, N. Y.

Prices subject to change without notice.



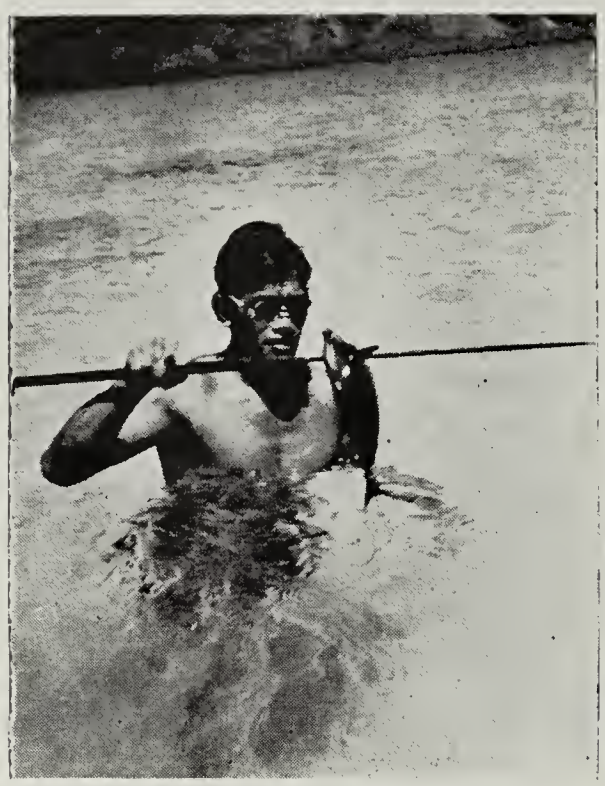
Sound Kodascope Projectors FS-10-N / FB-40

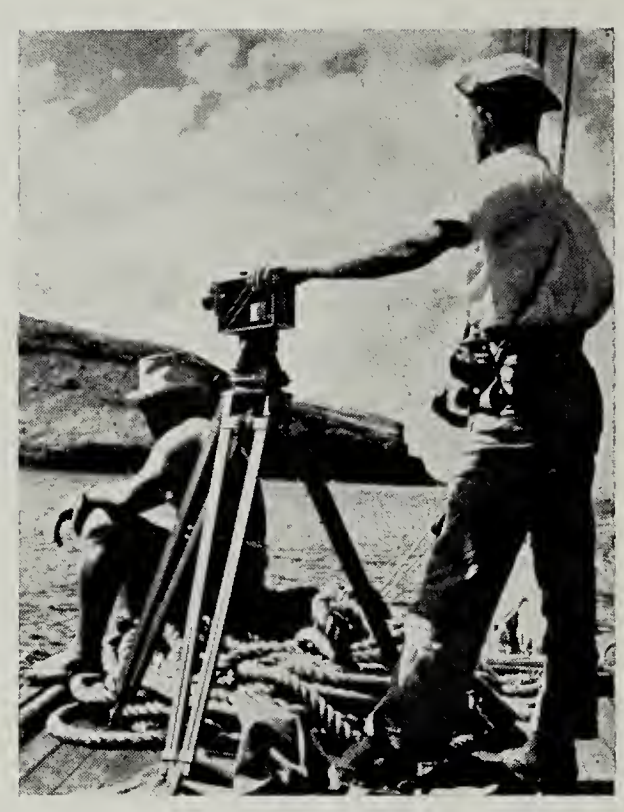
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Kodak







NATIVE fishing activities furnished Charles Allmon the most spectacular picture material of his entire filming adventure in the South Seas. Native Tahitians are adept spear fishermen and carry on fishing activities in some of the most rugged and picturesque ocean areas in the South Seas—places where few cameramen have dared venture with their cameras. Picture at right shows Allmon ready with camera as boat maneuvers close to shore for a shot of the fishermen. Fishing sequence is a highlight of Allmon's lecture film currently being shown throughout U. S.

South Seas Saga

Into the ancient center of Polynesian culture and religion went this youthful photographer to record in 16mm. color a remarkable lecture film on life in the South Seas.

By CHARLES ALLMON

IT'S A LONG voyage from the USA to the South Seas and islands of Polynesia, yet the sight which greets the eye as one approaches the circling reefs of Tahiti is much the same as that which sailors out of Liverpool, New Bedford and Marseilles saw one hundred and fifty years ago.

As our island freighter nosed its way up to the landing at Papeete, it marked the end of three months of research and preparation. Now I was ready to go to work—and have some fun. My journey to the South Seas had been made to shoot a 16mm. documentary film of the various islands of the Society and Marquesas groups. I was here with camera and a good supply of Kodachrome film to photograph spear fishing, hula dancing, the story of copra, the inter-island trading schooners and other facets of life in this colorful part of the world.

Tahiti, a mere pebble of an island in the southeast Pacific, is but forty miles long and twenty-five miles wide, and shaped somewhat like a Mexican sombrero; mountains strain skyward for nearly eight thousand feet. Seventeen degrees south of the equator, and wholly within the tropics, one would expect to encounter weather conditions prevailing in other tropical regions; but such is not the case in Tahiti. Humidity is seldom above 85 per cent, and temperatures are consistently moderate.

Getting my cameras and film through the red tape of French customs was more of a problem than I anticipated. I learned, among other things, that one-third duty is levied on all film brought to the islands; that cameras may be brought in and retained for a period of six months before duty must be paid, which amounts to one-third of the original cost.

My equipment included a Cine Special camera with a complete set of coated lenses, a Bell & Howell 70DA camera, and several hundred feet of Kodachrome film. The film was all of the same emulsion number—a precaution taken to insure against roll to roll color variation. Additional equipment included various filters, a Professional Junior tripod with gear-head drive, water-tight cases for cameras and films, and a supply of silica gel for desicating film in storage.

Anyone journeying to Tahiti these days is due for a great surprise—possibly disappointment. At the present time it is not the idyllic and fabled paradise where one may loaf on the beach and live for a few francs per month. The people and the scenery are little changed, but the economy has received a shot in the arm as an aftermath of the war. Prices have skyrocketed beyond all reason. Bungalows, which ten years ago could be rented for ten dollars a month, now bring sixty to one hundred dollars. I was indeed fortunate to find a modest, thatch-roofed bungalow conveniently located.

I had been filming around Tahiti not more than ten days when local experts began to caution me about Tahiti's peculiar light conditions: "Better watch that light, young man; those shadows record black, especially on color film." True words these were, indeed, as I found out later, as did also the Hollywood camera crews who years ago spent many months here filming "Mutiny On The Bounty."

Smog and fog are non-existant. The nearest great land mass is more than 3000 miles away, precluding the possibility of any great amount of dust particles in the air. As a result there is little natural diffusion of light. The first Koda-

(Continued on Page 28)



Count on the film instead of the light!

Winter days are pretty moody. One minute they're sunny, the next the clouds have climbed all over the sky and blotted out the sun.

You just can't count on having ideal lighting all day long. That's why we say, "don't count on the light."

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TIPS ON TITLES In snow sequences, you can make interesting title runs by spelling out your title with small lumps of coal. Smooth out a place in the snow, and then place the coal in it.

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TRIPLE S PAN FILM



TO PREVENT TRIPOD FROM slipping on slick floors, provide three blocks of wood about 3″ X 3″ X 1″ and drill a recess in each to take tip of tripod leg. Set up tripod and place blocks under the legs. Then stretch a length of clothesline or sash-weight cord from block to block and secure in place with staples. The cord will hold the blocks equidistant and provide a solid, non-slip support for tripod. When not in use, gadget may be quickly folded and stored in a minimum of space.

•

EDITING YOUR FILMS will be easier if you screen them in motion as you edit. Use your projector for this, setting it up on your worktable and focusing it on a small screen made from white desk blotter cemented to inside bottom of a cardboard carton. Place carton on one side and about three feet in front of projector. Sides of carton will shield room lights from miniature screen enabling you to project pictures with room or work lights on.

•

BARNDOORS for your clamp-on reflectors can be made from two pieces of cardboard. Tack cardboard to spring clothespins which will serve as clamps to hold barndoors in position at any angle.

•

A PLAIN WHITE window blind makes an excellent projection screen for either home movies or colored slides.

•

FOR A NOVEL main title with an action or live scenic background, use block title letters and affix them to slats of a venetian blind, utilizing not more than three slats for the composition. Start camera with slats open, then gradually close slats to reveal title text. Action may be staged outside window or garden scene used for background. Focus on title at close range and use smallest stop possible to gain maximum depth of focus.

•

A VIEWFINDER FROM a discarded box camera can be utilized as an auxiliary viewfinder for cine cameras equipped with wide angle lens attachments. Most box camera viewfinders afford a wide angle view comparable to the field of wide angle lens attachments. Compare fields of both, using strip of sanded film in camera gate, and mask off auxiliary viewfinder eyepiece where necessary. Attach finder to side of camera, using scotch tape or a clamp made from light metal.

•

MUSIC TO MOVIES

(Continued from Page 11)

Tracing the history of almost any top cinematographer today, we would invariably find that he began with some knowledge or experience in photography. Snyder is the exception. He started from scratch, with little or no knowledge of how even the simplest snapshot was made. There was a smoldering urge within him, however, which soon developed an avid student of things cinematographic. The keen interest and unusual natural talent he displayed in his work soon won for him the admiration and friendship of many Hollywood's foremost cinematographers with whom he worked.

It is these very men whom Snyder credits for much of his success today—such experts as the late Oliver Marsh, who taught him the fine science of photographing women stars with accent on glamour; Merritt Gerstad, who first coached him in the technique of effect lighting; Clyde DeVinna, A.S.C., whom Snyder claims is the best photographer in the business, an expert on interiors who revealed to him many important lighting secrets; and Victor Milner, A.S.C., with whom he worked frequently and to whom he credits much of his knowledge of "style" in cinematography.

Thus taken in hand and coached by some of the best men in the business, Snyder has emerged as a leader in his own right. When asked how he acquired his special technique for color photography, Snyder said, "I simply combined the best ideas of these men with some of my own that I've developed over the years. I feel that the education I received working in the various studios and with most of the leaders in the profession, is something I could not have acquired in any school or from reading books."

Snyder often reminisces on the ten years he spent with Technicolor as the most enjoyable of his career. Whether it was foresight or simply luck, going with Technicolor was the luckiest step he ever made, he avers, for it enabled him to prepare early for the inevitable industry-wide trend toward Technicolor films. That it has paid off is evidenced by the commitments for Technicolor productions he has completed in recent years.

His list of credits are impressive, for they include some of the best boxoffice hits turned out in Hollywood. He was associated with Karl Struss, A.S.C., and Wilfrid Cline, A.S.C., on "Aloma Of The South Seas;" with Lester White, A.S.C., on Universal's "White Savage;" with Victor Milner, A.S.C., on "The Princess And The Pirate," and with Charles Lang, A.S.C., on "Blue Skies." On his own, as director of photography, Snyder's more recent credits include "The Bandit of Sherwood Forest," "Renegades," "The Swordsman," "The Loves of Carmen," "The Return Of October," and, currently, "Jolson Sings Again"—all Columbia Pictures productions.

Of these, "The Loves of Carmen," "The Return of October," and "Jolson Sings Again," reveal the broad scope of Snyder's camera artistry more fluently than could any mere wordy description. "Carmen" was strictly an effects picture in which Snyder's skillful lighting and subtle camera effects are dominant notes. "Return of October," by contrast, is a light, gay comedy which required an altogether different camera and lighting treatment. And now "Jolson Sings Again" is yet another type of picture, which combines the gaiety and scope of musical sequences with highly dramatic episodes in a gentle love story involving one of the entertainment world's most colorful personalities. As in his photography of "Loves Of Carmen," Snyder's handling of color lighting in this picture is not the slide rule approach of the technician, but the emotional approach of the born artist. The emotional values of each scene or sequence invariably become the basic guides to his lighting and camera treatment.

Quiet and unassuming, William Snyder is highly respected by every member of cast and crew working with him on the Columbia lot. Indeed, his friendships among technicians, cameramen and players on every Hollywood lot are legion. And toward those who so generously helped him along in his formative years—from that fateful day when first he began loading cameras at M.G.M.—Bill Snyder feels a sincere debt of gratitude. "They made it all possible," he says, simply.

FILMING ANTS

(Continued from Page 18)

In order get desirable closeups I acquired a set of extension tubes (½″, 1″ and 2″) which supplied high magnification, and I began to see wonderful pictures — on the ground-glass focusing screen. I discovered the ants are hairy beasts, that they have teeth inside their mandibles, etc. But the extended lens that projected these tantalizing images onto the focusing screen had to be racked over to an altogether different shooting position before I could get anything on film. And once the lens was racked over, I had the problem of getting my ant centered again in front of it at precisely the right distance and within a frame of pleasing composition.

That problem was finally licked by the construction of a shiftable stage or table

which duplicated the rack-over motion of the lens. Tripod vibration had been evident in my first tests, so a solid steel base was made to hold the camera instead. The rack-over table was made to slide back and forth along this base. When focusing, my extended lens was at the upper right corner of the camera face. The table was then raised on its four short legs and brought hard up against a stop at the right side of the camera base. Then, when the focus and composition was properly set, the lens was swung to the shooting position and the stage also shifted over to the left. When it was firmly settled into its final position, the relation between lens and subject was the same as it had been at the focusing point.

Before I had filmed very much with this equipment, I discovered the need for a fourth extension tube—one ¼″ in length—which I had made. This was for use in making "long shots"—a long shot in this case being 4 inches and affording a width of about 1⅜ inches. A three-inch tube affords a field size approximately 6/100th x 4/100th of an inch, with the subject a scant half-inch from the lens.

One of the hardest problems involved in framing was getting the foreground at the right height or following action from right to left. Raising or lowering my subject, by adding or subtracting cardboard or paper shims beneath the stage, was a maddening time waster. Since depth of focus was never more than a quarter of an inch and, with extreme magnification, fell at times to possibly 1/100th of an inch, there could be no thought of panning the camera.

A drift indicator from a war-surplus bomb sight resolved that problem. The drift indicator possessed a beautifully calibrated, ball-bearing gear system which produced both horizontal and vertical adjustments when its knurled knobs were turned. With this device mounted on the rack-over table and a firm little platform mounted to it to hold my "stage," I gained great flexibility and certainty in properly placing my subject before the camera lens.

A fixed camera, however, is a great handicap. By shifting my tripod's tilting head to the steel camera base I obtained mobility for the camera, but lost the use of my rack-over table. I was faced with the problem of knowing when I had an ant in my field of view, as in the scene where I am shooting down into a film can in which a colony of Pogies are based.

This hazard was overcome by a pointer device seen in the accompanying pictures. I very accurately determined the focal distance for each of my extension tubes or for any combination of the tubes. A collar was made which clamped snugly around my lens and butted up solidly

"PROFESSIONAL JUNIOR" CAMERA EQUIPMENT

Interchangeable - Removable Head Tripods

FRICTION TYPE

Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with motor and 400′ magazine; and all 16mm. hand-held cameras. Head is interchangeable with the Gear Drive head. Both types fit "Professional Junior" standard tripod base, "Hi-Hat" and "Baby" all-metal tripod base.



GEAR DRIVE

The head, made of Dow Metal magnesium, weighs but 5½ lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap-on metal cranks control pan and tilt action from both sides. Worm-driven gears are Gov't spec. bronze.



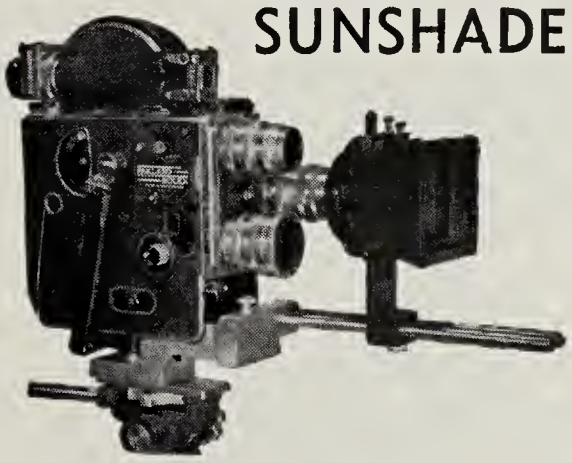
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This Blimp constructed of Dow Metal magnesium, is thoroughly insulated to afford absolute silent operation. Exclusive features: Follow focus mechanism permits change of lens focus while camera is operating in blimp. Blimp takes synchronous motor drive which couples to camera. A dovetail bracket is provided to mount an erect image viewfinder.



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THE AMERICAN CINEMATOGRAPHER
1782 N. Orange Dr., Hollywood 28, Calif.

against the extension tube. A screw socket in this collar took a nicely-machined rod, at the far end of which was a sharp pin which could be adjusted so that its point fell in the center of the lens field. Then, knowing the size of the field of view obtaining for each extension tube, I could mark the center of the field with the pin point (noting it by the location of a pebble or blade of grass) and then start my camera when the Pogies moved into this sharp focus area. These pin-point devices were invaluable when it came to taking pictures with very high magnification.

My natural desire to take pictures with artificial light was thwarted by the excessive heat of photoflood lights. It drove the ants frantic, accentuating their already swift movements to a point where even 68 frames-per-second gave nothing but a brownish blur on the screen. Ultimately I made the film in daylight, stepping up sunlight by the use of two, three or even four mirror reflectors. Even with such concentrated light and heat, scenes had to be made quickly or the ants would be seriously disturbed.

Part One of *Life of the Harvester Ant* concerns the fascinating facts of ant life anyone can readily observe in an artificial colony in his own home. It shows how to capture ants, how to build an artificial colony and it points up the tireless energy and engineering skill of these minute workers. It's record of a 73-hour duel-to-the-death between two red ants is an exciting sequence, as is the film record of an ant (weight, 1/8600th of an ounce) lifting a boulder 18 times it own weight from a blocked tunnel.

Part Two of this film—much of which is already photographed—will show the complete life cycle of the harvester ant, with the exception only of the nuptial flight of the princess ant who, becoming the queen, then becomes the mother of a new colony. This love episode of ant life, alas, takes place in flight, precluding any photographic record.

PUPPET TELE FILMS

(Continued from Page 17)

Lighting equipment included conventional floodlights for general illumination, Baby Junior spotlights for key-lighting and top-lighting and Dinky-Inkies for highlighting and kicker-lights. The puppet stage had to be enlarged somewhat to permit the arrangement of lights overhead and in the wings. While the general mood of the photography is high-key, great care had to be taken not to "burn up" the delicate coloring of the puppets faces and costumes through the use of too much light. On the other hand, sufficient light had to be used to enable the cameraman to stop down his lens for added detail and depth of field—two very important considerations when one is shooting a picture in huge close-ups.

First cameraman Charlie Straumer and his assistants, Dick Davol and Emmet Burkholz, encountered several problems which never develop during the filming of live players. The foremost obstacle that had to be overcome involved getting a variety of angles on the tiny sets and players. Filming the action from a straight front angle was relatively simple, but this technique had to be varied with side angles which were difficult to light. Then, too, a great deal of care had to be taken so that multiple shadows would not clutter the background and distract the audience's attention.

Since the television medium requires films shot with good contrast, it was necessary to build up the general level of the set lighting. However, it was also important to avoid both excessive shadows and exessive flatness. This "happy medium" in lighting is rapidly becoming standard technique in films made expressly for telecasting.

The strings by which the puppets are manipulated presented their own particular problem. The camera crew was more concerned with the shadows of the strings than with the strings themselves. In order to minimize these shadows, the backgrounds had to be lighted rather brightly and evenly. On a full-sized screen the strings in the finished film are just barely discernible, and on the television tube they are invisible—even in the extreme close-ups.

In staging the "Intermezzo" sequence, the music is first heard over a long shot of the puppet stage. The curtains slowly open to reveal a glamorous lady playing the violin. She is accompanied by a professorial-looking character who plays a white grand piano. The camera then slowly dollies in to a close-up of the lady violinist. The camera movement is very smooth and quite in the M-G-M tradition, but the technicians shed much blood, sweat and tears to achieve the effect.

A tiny red wagon was used for a dolly. It first had to be taken apart, thoroughly greased and specially adapted to run smoothly. Dolly tracks consisting of wooden strips were tacked onto a wooden table, and the camera was securely fastened to a board covering the top of the wagon. As the tiny puppet doll moved in on the scene, an assistant moved along side the camera to follow focus.

On the screen the tiny actors sing and dance and talk—now and again tossing in a sly plug for the sponsor. The pace is lively and the wholesome comedy is universal in appeal. One soon forgets that he is watching inanimate wooden dolls, which are scarcely 18 inches high. Shown

in extreme closeup, the puppets seem life-size, almost human actors, but with a whimsical charm that is peculiarly their own. Their antics and merry patter command attention in a positive way, and they put across a commercial message in the guise of smooth entertainment.

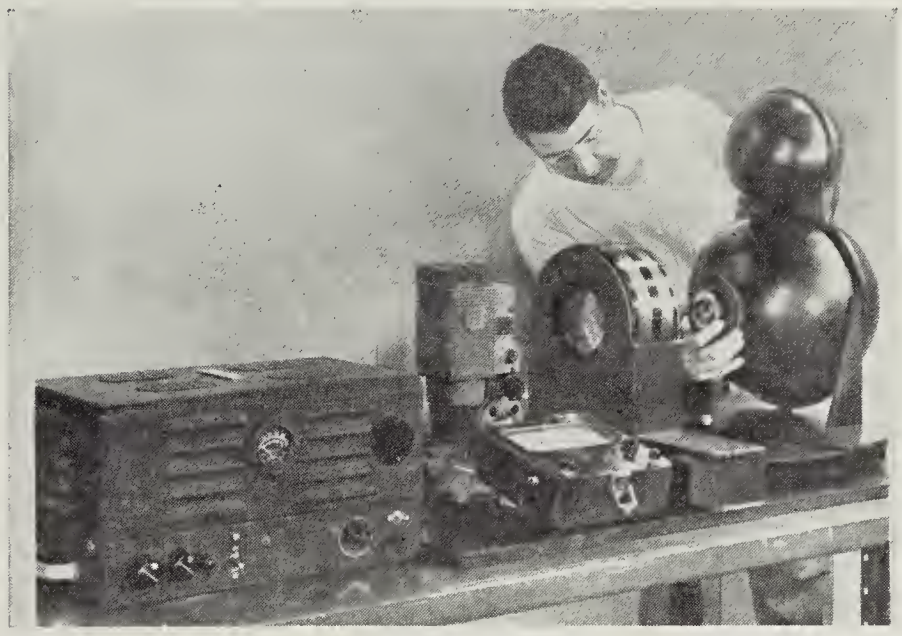
Earle Harper, who heads Sentinel Productions, also directed the sample puppet film. A veteran of 25 years in the motion picture industry, he was one of the first to go all out in producing films expressly for television.

"Television is chiefly a *visual* art, "Harper explains, "even though it stems from radio. When a television program appears on the receiver tube it is mainly a picture, and this means that all television shows —both live and film—must be directed for the camera. Stage technique is not enough, nor straight screen or radio technique either; television demands a blending of all three."

Most television producers agree that a unique style of motion picture production has rapidly developed to serve the technical requirements of video. It is a new and as yet unperfected technique. There is a great deal of research and experimentation to be done. But out of all this trial and error will come new and original ideas for commercials and entertainment —like the puppets of Don and Ivy Wilson brought right into your living room.

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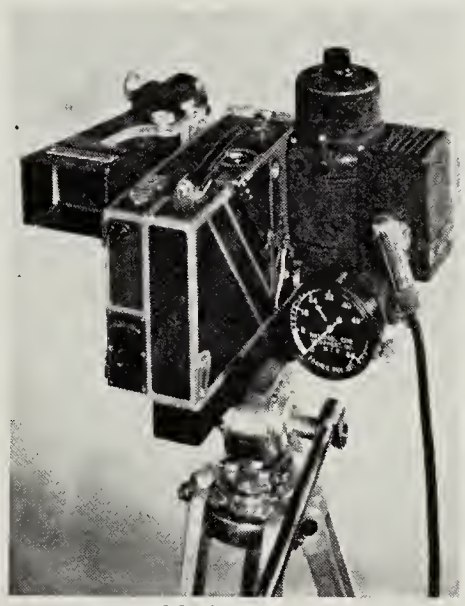
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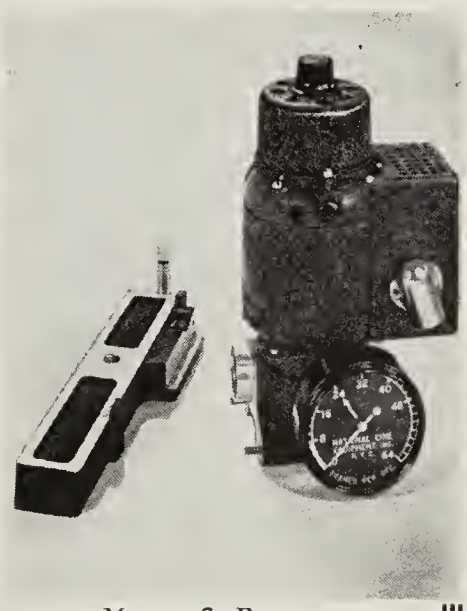
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• CHARLES ROSHER was lamenting the loss of his new Packard automobile which had been stolen where he parked it on Hollywood Boulevard while attending an A. S. C. meeting.

• ROBERT DORAN was shooting another Will Rogers' comedy at the Hal Roach studios.

• VICTOR MILNER was photographing Fred Niblo's production of "Thy Name Is Woman."

• GEORGE SCHNEIDERMAN was touring the west, scouting locations for a forthcoming Fox production.

• SOL POLITO was elected to handle the camera on First National's production of "Lilies Of The Field," featuring Corinne Griffith, Conway Tearle and Charlie Murray.

• JACKSON ROSE wound up photography on "Innocent," produced by King Baggott for Universal.

• NORBERT BRODIN was making preparations for filming First National's big sea epic, "The Sea Hawk," for which studio was constructing five ships representing an outlay of $250,000.

• DAN CLARK was shooting "Ladies To Board" at Fox studios. Picture starred Tom Mix and was directed by Jack Blystone.

• JAMES VAN TREES was president of the A.S.C., with John Seitz, Charles Van Enger and Victor Milner as vice-presidents, Frank Good was treasurer and Phil Whitman, secretary.

• FRED JACKMAN and Homer Scott were stalled in axle-deep mud with their car while on a trip to Mexico.

• JOHN ARNOLD was photographing "Revelations," starring Viola Dana and directed by George D. Baker on the old Metro lot.

• ARTHUR EDESON, Phil Whitman and Kenneth MacLean were working their cameras overtime in an effort to wind up Doug Fairbanks' "Thief of Bagdad."

• ANDRE BARLATIER and Georges Benoit were besieged by their associates to interpret captions on the illustrated French postcards which Bob Kurrle had mailed them from Paris.

• DAVID ABEL started shooting Warner Brothers' production of Sinclair Lewis' "Babbitt," directed by Harry Beaumont.

• GILBERT WARRENTON'S Bell & Howell was grinding footage on the First National lot for Joseph DeGrasse's production of "Flowing Gold."

FILMS FOR TELEVISION

(Continued from Page 9)

There are other reasons for producing television spot announcements on film, too. Cuts, fades, dissolves and superimposing text over the picture—all of which have proved so effective in motion picture presentation—are equally effective on the television screen. But more important, these devices actually enhance the commercial visually while at the same time afford fuller use of the commercial time interval, resulting in more message per minute than would otherwise be possible with a studio-enacted commercial picked up by the television camera.

Most important of all, however, is the economy that results from producing television commercials on film. By shooting them on a mass production basis, several at a time, it is possible to produce perhaps as many as six or a dozen for little more than the cost of one produced singly.

The Westinghouse series just completed is an example. It consists of eight "one minute commercials" exploiting the Laundromat, company's newest home laundry equipment. We photographed all eight in the space of an eight hour day, using six sets and eight actors. Each commercial opens with the main title superimposed over a picture background, then proceeds to show a housewife demonstrating the simplicity and economy of using the sponsor's product. In no case are there more than three or four cuts to a commercial, and all normal action is played close to the camera. Most of the shots are tight closeups of the Laundromat or of some feature which is described in the narration. The key message, "You can be *sure* if it's Westinghouse," is double exposed over the closing scene of each.

In the lighting, I avoided the extremes which are often used in standard motion pictures for dramatic effect. Simple, basic lighting was employed to gain clear, pictorial definition for every scene or closeup. Lighting for the average scene ranged around 100 foot candles. A standard Mitchell 35mm. camera mounted on a crane was used in filming the series. After the films were edited and titled, they were reduced to 16mm. for pickup by the television camera.

Incidentally, the lighting problem is another reason why the filmed spot commercial announcement is invariably superior to the live action commercial produced in the television studio. Television studio lights are often too powerful or improperly placed to produce the right illumination for showing a product to advantage. In a recent instance, an advertising routine was picked up by the television camera which demonstrates this point. The product was a bright gold compact in the hand of a beautiful model; but when the brilliant studio lights struck the surface, the light that was reflected into the camera lens was so blinding that the compact appeared as a white blur on the television screen instead of the beautiful product that it was.

Incidentally one of the chief reasons there are so many opinions regarding what is proper lighting for television films is the inconsistency of television receivers in reproducing video programs at the same light level and contrast. At the time we were making preliminary experiments, we had occasion to check the result of our television films on several receivers and found that no two receivers reproduced exactly alike. So, television films as well as live programs will continue to be criticized for their quality in some instances, until such time as broadcasting and receiver equipment are improved to provide more uniform reception.

Composition is a very important element in the photography of films for television—not so much from an arty standpoint as the practical side. What many cinematographers fail to take into consideration is that too often the full frame of the film is not the area that ultimately reaches the screen of the home television set. If the set is off a bit, or if it was so designed that the frame around the screen takes up some of the margin of the televised picture, certain parts of the picture composition are bound to be lost unless a generous safety margin is allowed all around. This is most likely to happen when filming a closeup of a person demonstrating millinery or men's hats, or of some small object filling the movie frame from edge to edge.

Because it takes as much camera and lighting preparation to photograph one "minute commercial" as ten, the big lesson producers have learned is that the only profitable way to produce television spot announcements on film is to photograph them in numbers as though they were a single production. This is feasible, of course, only where the commercials are produced as an integrated series on the same sets, as in the case of those of the Laundromat, which enabled us to shoot all the scenes of a given camera set up at one time.

For example, after scripts for the eight films were completed, we found that the entire series called for 20 scenes to be made of the Laundromat in closeup, although with different action. Therefore, we moved the camera to closeup position only once, instead of making frequent and repetitious camera changes at intervals as production progressed. Using this same production formula, it would

be possible for us to shoot many more "spot commercials" than the eight we finished that day.

As one prominent telecasting head has so aptly stated: "Simple economics require an entirely new film production viewpoint, because video is still not paying its own way." The answer lies in mass production of television films carefully planned to take advantage of all possible production economies. The small sets and the need for most action to be filmed close up, makes for simplicity in the lighting and therefore reduces the cameraman's problems to the minimum.

MODERN TITLE MAKING

(Continued from Page 12)

are placed in a pneumatic press (Fig 4), in tracks provided in top plate of the press. The title card or panel of celluloid is laid on the platen below with a sheet of ink pigment, which may be black, white or any one of a variety of colors, and the pneumatic press operated to make the impression (Fig. 5). Special dual controls are a safety feature of the press. The operator must use both hands to

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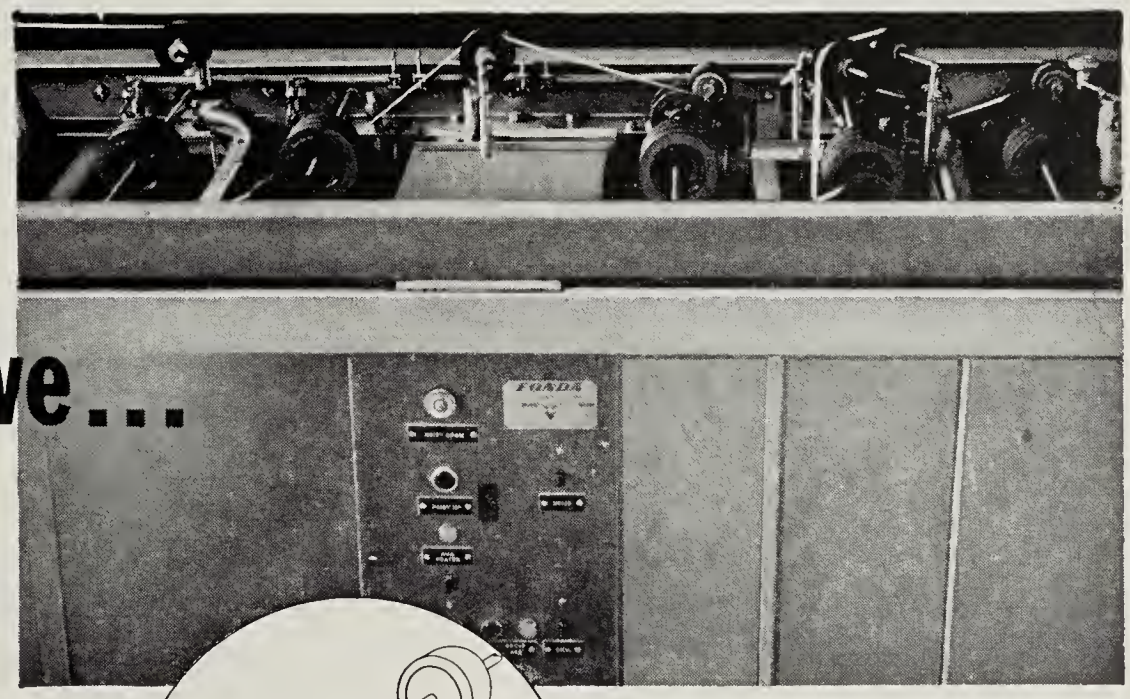
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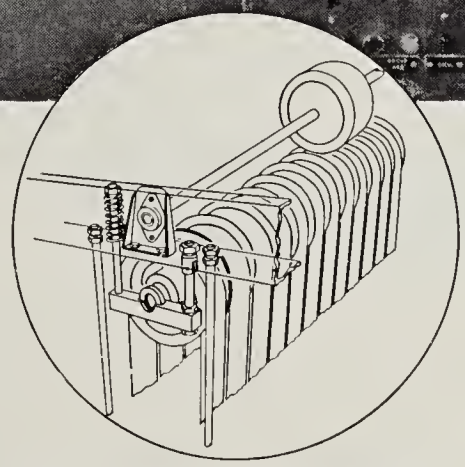
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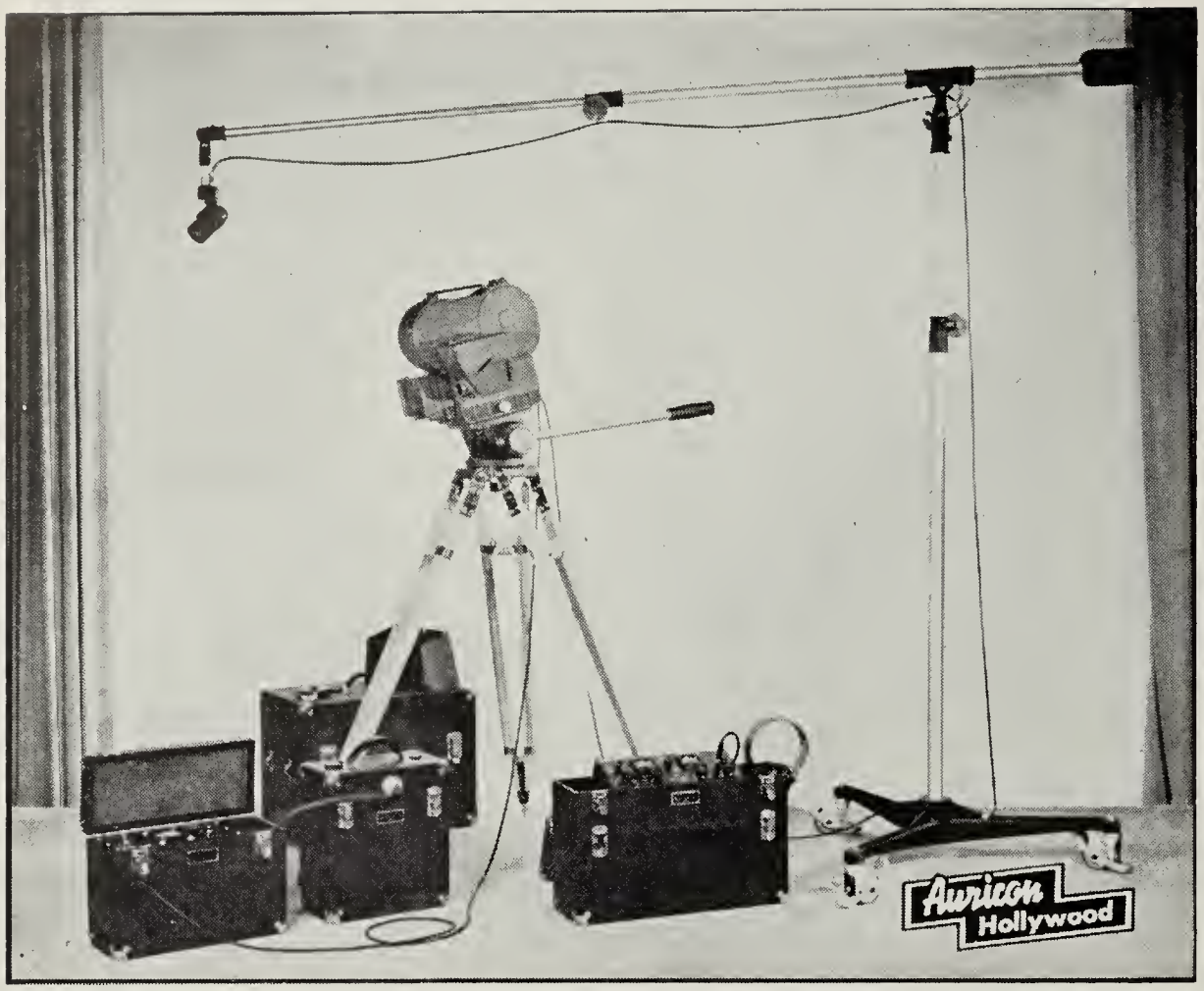
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work the levers that control it, thus insuring against accidental crushing of hands or fingers.

The printed title card then goes to Telefilm's camera room to be photographed (Fig 6), and here is found another exclusive setup, the product of Telefilm's engineering staff. The titler was designed and constructed with speedy production the prime objective. Once the title card has been mounted on the title board, the cameraman never has to leave his position behind the camera. Special finger tip controls and motor drives enable him to line up the title card and center it with the camera, then light it and photograph it simply by operating a bank of pushbuttons on a panel attached to the camera base.

Photoflood lamps, mounted in reflectors in groups of three at either side of the camera, furnish the illumination. The current supply is carefully controlled to insure consistent 3200° K color temperature for Kodachrome titles.

A standard Maurer camera is used. This is mounted on a substantial base opposite the title board. There are fine screw adjustments on this base, permitting vertical correction of the camera when necessary.

The title board is electrically controlled, both horizontally and vertically, and there is an additional motor drive to move it toward or away from the camera —all of which is regulated by the push button controls at the camera. Thus it may be seen that the camera operator's task is greatly simplified, with the result that more titles can be turned out within a given time with practically no retakes necessary.

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One title or a hundred, a rush job or a leisurely one, the photographic quality remains the same—all because of the specialized routine and precision equipment provided by Telefilm's engineering staff.

SOUTH SEAS SAGA

(Continued from Page 20)

chrome film I shot indicated the necessity of setting a definite time for shooting pictures in the future, and I wisely decided to halt all filming each day after ten in the morning.

Shooting a carefully planned native

fishing sequence on one of the coral reefs presented many obstacles. First it meant catching the low tide, with the reefs more or less high and dry. This condition occurred about every three weeks at which time the most ideal filming conditions lasted but three days at most. More often than not, when ideal weather and sea conditions did prevail, there was no fishing going on—the natives being elsewhere or engaged in other pursuits.

On another occasion, after driving half the night in a jeep over rough roads not much more than cow paths, I reached a remote beach. Here I was to pack my gear into four dugout outrigger canoes for a trip to a small "motu," or island, to shoot pictures of native divers. We were doomed to disappointment, however, for when we reached the island, the weather was bad and photography had to be abandoned. Eventually, after making five attempts, the desired sequence was filmed —all 250 feet of it.

Some of my most startling experiences took place on the coral atoll of Tubai, twenty miles northwest of Bora Bora. Here our boat, an inter-island vessel dropped anchor about daybreak—just one hundred yards from the edge of the shore reef. Over the side went double-ender whale boats carrying my cameras and gear and myself, each boat skippered by a skilled native oarsman. Carefully maneuvering the boats in relation to tide, we shot with incredible speed through a narrow, treacherous pass in the reef. The comer behind picked up our craft as though it were a chip on a wave, and sent it sailing swiftly shoreward. A slight miscalculation here by the skipper probably would have spelled finis for this South Seas filming adventure.

Subsequently I set up my camera on the edge of the reef—about seventy-five feet from the open sea—and filmed the whale boats as they negotiated the pass from ship to shore, and back again. Even with my tripod extended its maximum of five feet in height, it was not unusual for the foaming comers to reach nearly to the top of the tripod head, threatening to engulf my camera. For safety, I had three natives stand by while I made the shots, to brace both me and my camera as the comers rolled in. It would have been easier to setup farther back and use a telephoto lens, but then I would have sacrificed the thrilling results of undistorted closeup action shots of the boats battling the sea.

On shore, another problem presented itself: the beach consisted of fine white coral sand which gave an excessive meter reading, no matter in which direction I pointed it. Even a reading taken of the back of my hand indicated a stop of f/16 at 24 f.p.s. I had to be absolutely sure, of exposure for here was interesting shooting and I could not return for retakes.

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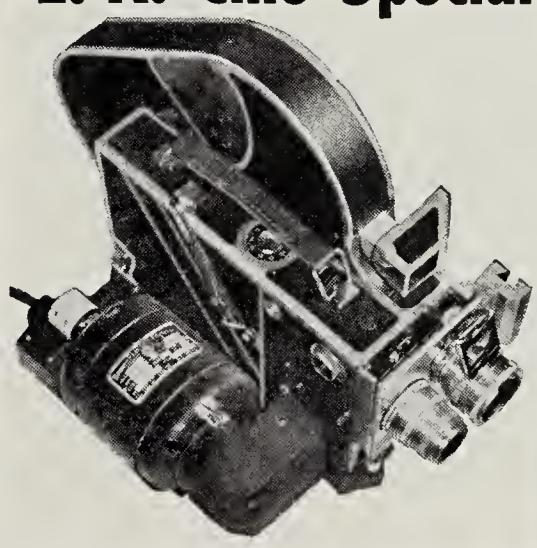
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Finally, I compromised on a reading taken of the darkest blue sky area with the sun at my back. The meter indicated a stop of f/11. To allow for any possible error, I opened up "just a hair" from this point and shot. After the film was processed in Honolulu and returned to me, I breathed easier for the exposures turned out perfect.

A trading schooner voyage to the famed Marquesas islands presented another rare opportunity for picture material. I had come along to photograph a phase of island life common in the South Seas for centuries. The boats plying between the islands carried strange cargoes indeed. Passengers and cargo mingled together and much of this cargo invariably was livestock—sheep, goats, hogs, chickens, and not infrequently horses. Such items are exchanged in the Marquesas islands for copra which in turn is brought to Papeete and thence transported to the mainlands by steamer.

Harbors are practically nonexistant in the islands, and transfer of cargo and the loading of new is done by small boats. Here again we encountered the thrilling sight of native boys skillfully maneuvering boats through narrow channels in the reefs. I had to be alert with my camera every minute. On one occasion I watched heavy surf swamp a whaleboat. There wasn't time to rewind my camera; the lens had been pre-set for just such incidents. Presently the boat was completely lost from view, only to bob up again. A wall of water broke over the boat once more and men, oars and copera bags were tossed into the sea as the boat capsized—just as my camera motor spring expended itself.

When going ashore in such treacherous waters, I make it a point never to place "all my eggs in one basket." I allowed only one camera to a boat. The cameras were first placed in watertight containers and sealed, allowing only sufficient air within to insure boyancy should they fall into the sea. Such precautions saved my photographic equipment from disaster on several occasions. One morning my Cine Special had gone on ahead in the first boat. I followed in the second, with other cameras and equipment. The first boat capsized as it approached shore and within seconds my Cine Special in its sealed container was bobbing safely in the surf. In a short time it drifted to shore and was retrieved.

Special precautions were taken at all times for the preservation of my Kodachrome film supply. The silica gel was used to desicate or remove any tropic moisture from both exposed and unexposed films. It is interesting to mention that ninety per cent of my Kodachrome footage had been exposed for at least four months before being processed in Honolulu, without adverse effect from tropic heat or moisture.

Like many another traveler who has visited the South Seas, I'm getting itchy feet again. Time has little meaning in the islands. Palm trees outside one's cabin door rustle gently in the breeze, and the lagoon just off the doorstep invites a delightful swim at any hour. At the slightest provocation, a native dance will begin and continue for hours. But most of all the inexhaustible photographic possibilities are a constant urge to return again to get on film all those thrilling sights and experiences that limited film precluded on my initial visit to Tahiti.

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COLOR

(Continued from Page 13)

mitted by the filter.

The length of a single wave of visible radiation is exceedingly small, so that, to avoid the difficulty or awkwardness of thinking and speaking in such small figures, wavelength is customarily expressed in millimicrons or in Angstroem units.

1 millimicron = .000001 mm

1 Angstroem unit=.0000001 mm

The visible range of the spectrum reaches accordingly from:

400 to 700 millimicrons

4,000 to 7,000 Angstroem units

In the additive process of color reproduction the individual print from each of the color separation negatives is illuminated in projection by light identical in color composition to that transmitted by the corresponding primary exposing filter. The print itself is black-and-white and the different densities merely modulate the amount of colored light passing through the silver image. This modulated light from each print is superimposed and additively mixed on the screen. Black is, therefore, obtained where all three colored light sources are presented from reaching the screen by heavy, opaque silver deposits. White is obtained when all three colored light bundles reach the screen in equal intensities.

In the subtractive process of color reproduction the individual prints (or print layers) of each of the color separation negatives are dyed in their respective complementary colors and superimposed upon each other prior to projection. This combined, multiple-dyed print is then projected on the screen with white light. Since, in this instance, each dyed component absorbs its complementary part of the all-color mixture of the white light, it follows that this type of projection is subtractive, which means that, where no dye interferes with the projected white light, the screen reflects white; where all three dyes interfere in equivalent densities the screen will be black, since all components of the white light are absorbed and prevented from being transmitted through the film on to the screen.

The field of measuring colors is called colorimetery. One of its more recent endeavors concerns the systematic determination and classification of colors on the basis of measurable and reproducible units or factors. It establishes for this purpose numerical values for three specific attributes of colors which determine qualitatively and quantitatively their relations and differences. These attributes are, in the order of their importance, hue, sensation and brightness.

Color in Hue: The hue of a color is identified by its wavelength or its position relative to the spectral band of visible radiation, which reaches approximately from 400 to 700 millimicrons and, when thought of as a continuous band, must consist of an infinite number of different hues. The human eye can, at best distinguish about 200 hues, so that we may say that our eye can see a difference in two colors as long as the difference in their hue it not less than 1.5 millimicrons.

Color Saturation: This attribute of color is an indicator of its purity. A dye of spectral purity would have 100% saturation. White has zero saturation. The amount of dilution with white determines, therefore, the degree of saturation of any color of a given hue.

Color Brightness: Colors possessing identical hue and saturation may still differ in brightness. While hue and saturation are attributes which permit the qualitative determination and comparison of colors, brightness is a comparative quantitative characteristic of color, giving expression to how a color affects our sensation as being more or less bright.

All three attributes, hue, saturation and brightness, are to be thought of as purely mental phenomena and not as physical characteristics. They are mental variables related to the variations in the physical stimulus caused by light of changing spectral composition entering the eye.

General Comparison of Photographic Color Processes: Numerous methods have been devised and suggested, using either the additive or subtractive principle to photographically obtain color reproductions. Of those actually in use at present for motion picture production, the subtractive method is practically favored to exclusion. The additive process, while much simpler in processing and less complex in the synthesis phase, presents two obstacles which have, unfortunately, prevented its wider adoption for practical use. These are the necessity of having to use auxiliary optical elements in projection and the low light efficiency in projecting the prints through filters and superimposing devices.

The comparative shortcomings of the subtractive processes are to be seen in the complexity of making superimposed color prints and in the fact that the complementary dyes required, particularly cyan and magenta, have so far not been produced with satisfactory selective transmission characteristics.

The technical development of color processes has been in the past, and may continue to be, mainly along the line of slow and steady progress in perfecting rather early conceived principal methods, as may be plainly seen when studying the history of the Technicolor process.

The relentless efforts made in improving and simplifying the technique of photographic color processes for motion



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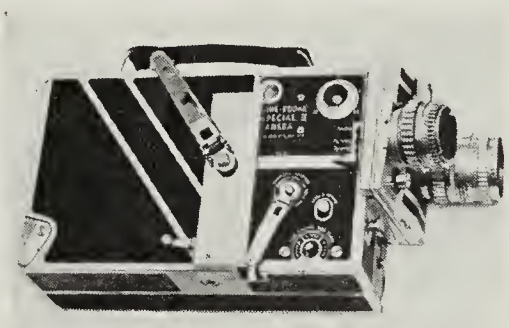
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picture production, will, no doubt, bring about a time when color photography is standardized to a degree comparable with present black-and-white photography. It offers, however, a relatively new and very large field to any progressive cameraman in the study of its psychophysical and psychological phases. Those who are responsibly concerned with the photographic reproduction of motion pictures in color should find a wealth of interesting knowledge and yet unsolved problems in the recently published book of Ralph M. Evans, "An Introduction to Color" (John Wiley and Sons, Incorporated, New York). It is well conceivable that lack of understanding or of knowledge of psychophysical and psychological color phenomena may soon be recognized as a greater source of reproductive failures than the shortcomings traceable to purely physical phases of the specific color process used.

We see that color as a science has a rather complex structure. In being confronted with a complex problem, we may either react to it by throwing up our hands and turning our backs, or we may become fascinated. Either attitude is understandable and justified as long as one has his choice. The professional cinematographer today is faced with a public demand and commercial orders asking that he provide pictorial records in actual colors and it seems, therefore, that he had better attempt to feel highly fascinated by the problem of color.

MAGNETIC RECORDER

(Continued from Page 14)

therefore Roos insists that all mechanical parts of the Hallen recorder be precision made—all shafts and gears hardened, ground and lapped. All parts which come in contact with the coated film are made of non-magnetic stainless steel.

Roos states that economy in production of the recorder results from adopting war time measures of the aircraft industry, which let out its precision machine parts manufacturing to small, dependable machine shops with skilled staffs expertly supervised. Most of the parts for the Hallen recorder are being manufactured by these same machine shops, which are located in the Burbank area as a result of the heavy concentration of motion picture and aircraft industries there. The parts are then assembled in the Hallen factory on West Olive street in Burbank.

The recorder's amplifiers are also built and tested outside the Hallen assembly plant in a well known laboratory headed by three of the West's outstanding electronics engineers. This laboratory has every known type of electronics testing equipment and is responsible for the high degree of recording perfection attained by the Hallen recorder. For instance, the quality of the sound is such that there is virtually no loss in re-recording to film. Range of the amplifier is 40 to 10,500 cycles, plus or minus 2db. Sound experts have stated that the recorder has the highest degree of "presence" of any magnetic recorder tested thus far.

Roos built and discarded at least fifteen differet kinds of electric motors before he found one suitable for driving the recorder. Many of the motors tested heated up excessively under prolonged use, ran at inconsistent speeds, showed marked pulsation, or lacked sufficient power. The motors now in use, according to Roos, are specially designed and built for the recorder, and are the coolest and smoothest running motors available.

Inasmuch as the mechanism of a recorder of this type must be "free running" to produce the maximum quality sound, the matter of lubrication came in for particular attention. Roos tested more than 20 different lubricants for the motor gear box before one was found that would perform perfectly under all weather conditions. The gears now run in a sealed bath of oil which is unaffected by extremes in temperature.

On the electronics side, the shielding of the recording and pickup heads at first posed quite a problem. This was finally licked, however, by using the new Mu metal annealed in hydrogen. Dubbing heads are now being prepared and soon will be available, making it possible to mix voice, music and sound effects on the one sound track.

The recorder is made for use with standard 110-115 volt A.C. current. However, to facilitate use of the recorder in any location and in any place in the world, the Hallen Corporation makes available on special order a portable, battery-driven power supply capable of driving a Mitchell camera and the recorder simultaneously in sync. So that the recorder may be used in countries where 220 volt circuits are standard, a step-down transformer is available reducing the 220 volt source to 110.

Len Roos, who has been a member of the American Society of Cinematographers for 25 years, and one of the few cinematographers who is also a Fellow in the Royal Photographic Society, has probably devoted more study and experimentation to sound, as applied to motion pictures, than any other cinematographic specialist. As a motion picture photographer, he is in an ideal position to know the specific sound recording needs of the movie maker; as a sound specialist, he has the benefit of the cinematographer's viewpoint. Thus he was able to develop to perfection a magnetic recorder peculiarly adapted to the needs of the film maker at a time when the advantages of magnetic recording is just beginning to be appreciated by producers of films for television, as well as those who make films for theatrical distribution. The Hallen recorder, however, is not limited to the motion picture field, although it was engineered especially for it. Its absolute synchronous mechanism also makes it ideal for radio and delayed broadcasts, and its generous film width makes it especially favorable for radio program production because of the ease in editing that the wider tape affords.

Also in production by Hallen Corporation is a recorder using quarter-inch oxide coated tape. This machine, as well as the 17½mm. film recorder, is available for demonstration at the Hallen showrooms in Burbank.

CHANGING TRENDS

(Continued from Page 11)

ress—but many others have been purely artistic, and have resulted from the ever-present desire of cameramen to find more dramatic and more interesting ways to tell the screen story.

One of the most basic steps forward was the introduction of camera movement as basic technique. Hitherto, the camera had been a static spectator and the action had to be staged in a stilted manner in order to stay within the rigid limits of the camera angle. It was when the camera itself began to move that motion pictures really became moving pictures.

Many of the new techniques, when first discovered, were overdone. Diffusion, for example, was carried to fantastic lengths in the enthusiasm that followed the discovery that a bit of gauze over the lens could make a grandma look like an ingenue. For a while everything and everybody was diffused, and heroines became so ethereal that they appeared to have been spun out of ectoplasm. But the cameramen had their fling and then learned how to really use diffusion. Today, diffusion is still very much a part of cinematography, but it is so subtly and so perfectly applied that it adds a great deal to a photoplay without being theatrical.

A constant challenge to the cameramen has been the various "cycles" of motion picture subject matter which the studios have had to concentrate upon from time to time in order to satisfy the mercurial preferences of the movie-going public. There was the slapstick or Mack Sennett cycle, the Western cycle, the

gangster cycle, and many others. The phenomenal success of "Gone With the Wind" started a cycle of historical epic dramas in photography form which included "Forever Amber," "The Foxes of Harrow," "Captain From Castile," and "Prince of Foxes" (which is currently being photographed in Italy by Leon Shamroy, A.S.C.).

We are just now emerging from a whole series of psychological films, many of which featured really inspired photography. Notable among these are "Spellbound," "The Lost Weekend," "Nightmare Alley," and "The Snake Pit." "Duel in the Sun" signaled the start of a new cycle, the epic Western—and as a result we will see in the coming year such outdoor sagas as "Red River," "Blood on the Moon," "Yellow Sky," and "Whispering Smith." All of these films, plus several others now in production, are Westerns only in the sense that the action takes place in Western locales and feature characters in boots and Stetsons. They are, in terms of production value, a far cry from the "shoot 'em up" that is greeted with whistles and the crunch of popcorn by Saturday afternoon juvenile audiences. The photography in these erstwhile cow-operas is unusually artistic.

Through all of these various cycles of entertainment preference, the Director of Photography has had to adapt and readapt his basic photographic techniques to complement as closely as possible the mood and story requirements of each type of film. He has no one set style, for the style must change with the artistic requirements of each individual script. In the historical film the cameraman must suggest the glamour of a bygone age, while still retaining an atmosphere of reality. In the psychological film he is called upon to make his camera subjective—virtually to crawl inside a character's mind and provide a window for the whirling emotions imprisoned there. In the super-western it is his job to make the scenery look pictorial and the characters virile. He must bring all outdoors into the theatre, without letting the scenery overwhelm the action.

The present trend in cinematography is toward greater realism. The documentary technique has been used with poignant effect in films like "13 Rue Madeleine," "Call Northside 777," and "Naked City." All of these possess a documentary quality, but they also have a technical smoothness that is the result of many years of studio experience on the part of the cameraman. Several pictures, notably "Street With No Name" and "Johnny Belinda," were shot partially in actual locations and partially in the studio. It is a tribute to the Director of Photography on such films that it is impossible to tell where the location footage leaves off and the studio footage begins.

The demand for more realistic backgrounds has taken Hollywood camera crews to some far-flung locations. "A Foreign Affair" and "Berlin Express" were shot mainly in Germany. "The Search" was filmed in Czechoslovakia. At the moment, Stanley Cortez, A.S.C., is shooting "Man on the Eiffel Tower" in Paris; Russell Harlan, A.S.C., is filming "I Was a Male War Bride" in Germany; and Jack Cardiff, A.S.C., is shooting Alfred Hitchcock's "Under Capricorn" in England.

This sort of location filming is a good thing for the industry because it adds an authenticity that only realistic backgrounds can provide. Another healthy trend in cinematography is the gradual adoption by a majority of cameramen of

(Continued on Next Page)

THE CARE AND PRESERVATION OF LENSES

(Reprinted from the American Cinematographers' Handbook and Reference Guide, written and compiled by Jackson J. Rose, A.S.C.)

A PHOTOGRAPHIC lens is a precise optical instrument, and will provide a life-time of useful service, but one must observe commonsense precaution in its handling.

Do not wipe lenses carelessly with any available rag, handkerchief or tissue paper. For the removing of dust, grit, sand, etc., brush lenses with a fine camel's hair brush. Never touch the glass if you can possibly avoid doing so, but handle by the mount. Should fingerprints or grease spots, nevertheless, show on the lens surface, remove them in the following manner:—

Dip a swab of well-washed linen lightly in pure grain alcohol or ether, and clean the lens gently with it. Avoid touching the lacquered metal rims or mounts in this operation, as the action of the chemicals may affect the lacquer. To polish the lens use a soft, clean, lintless cloth or specially prepared lens tissue.

Do not keep your lenses uncovered. Protect them from excessive heat, humidity and dampness. Use metal lens caps which protect them from dust as well as other dangers.

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A.S.C. "CINEMATOGRAPHIC ANNUAL," published 1930. Limited number copies availabble at $3.50. A collectors' item. A.S.C. Agency, 1782 N. Orange Dr., Hollywood 28, Calif.

the more direct and dynamic lighting approach. Such directors of photography of the A.S.C. as Woody Bredell, James Wong Howe, and Russell Metty, have for years advocated simpler lighting setups, fewer lighting units, and lighting that has greater depth and dimension. Now, thanks to these men, the industry is following these techniques and permitting dramatic lighting to come into its own. In these days of industry-wide economy, the cameramen are contributing their full share toward cutting production costs by using simpler but more imaginactive lighting setups. This in turn has reduced the number of large and costly sets required.

BULLETIN BOARD

(Continued from Page 4)

ster's "Behind the Lens" radio program dealing with photography as a hobby and originating on KNX, Hollywood. DuPont's "Cavalcade of America" program for September 20th paid tribute to the cinematographic artistry of Joseph Biroc, A.S.C., Similar accolade for Nick Musuraca. A.S.C. was tired by DuPont on an earlier program.

•

GLEN MacWILLIAMS, A.S.C. is preparing his second 16mm. film production which will depict the remarkable work being done by the Morning Glory Kindergarten, a unique school which teaches sightless kiddies Braille and otherwise starts them on the road to learning at kindergarten age. While on a northern trip, MacWilliams happened to read a casual newspaper item about the school, visited it, and saw possibilities for furthering its good work via a fund-raising film. Script has been approved and shooting scheduled to start in January.

CURRENT ASSIGNMENTS

(Continued from Page 6)

• IRVING GLASSBERG, "Arctic Manhunt," with Mikel Conrad and Carol Thurston. Ewing Scott, director.

• RUSSELL METTY, "The Lady Gambles," with Barbara Stanwyck and Robert Preston. Michael Gordon, director.

• WILLIAM DANIELS, "Illegal Entry," with Howard Duff, Marta Toren and George Brent. Frederick deCordova, director.

• IRVING GLASSBERG, "Yes Sir, That's My Baby!" with Donald O'Connor and Gloria DeHaven. George Sherman, director.

Warner Brothers

• ELWOOD BREDELL, "Happy Times," (Technicolor) with Danny Kaye and Barbara Bates. Henry Koster, director.

• WILFRID CLINE and BOB BURKS, "Task Force," with Gary Cooper, Wayne Morris and Julie Brennan. Delmar Daves, director.



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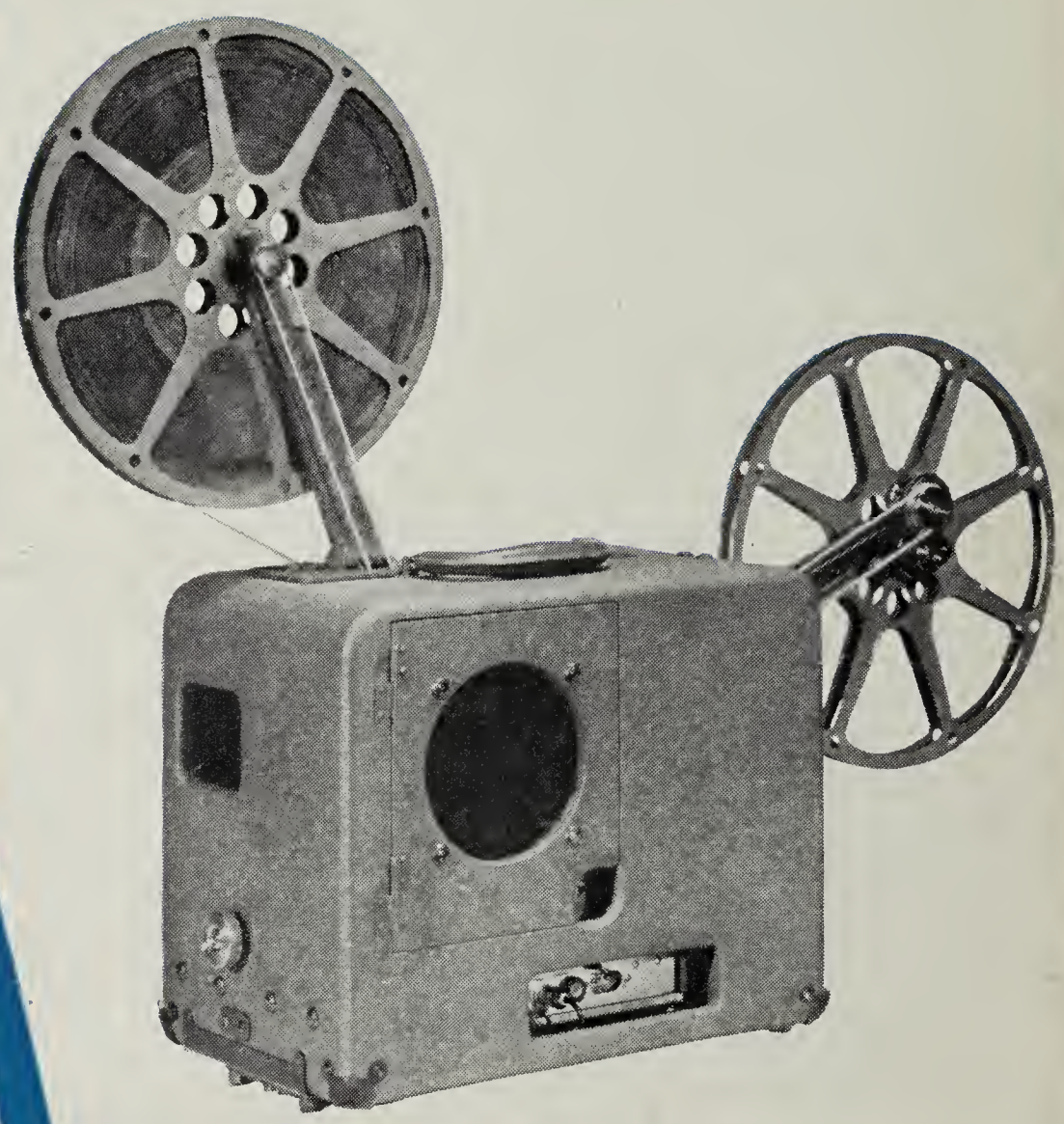
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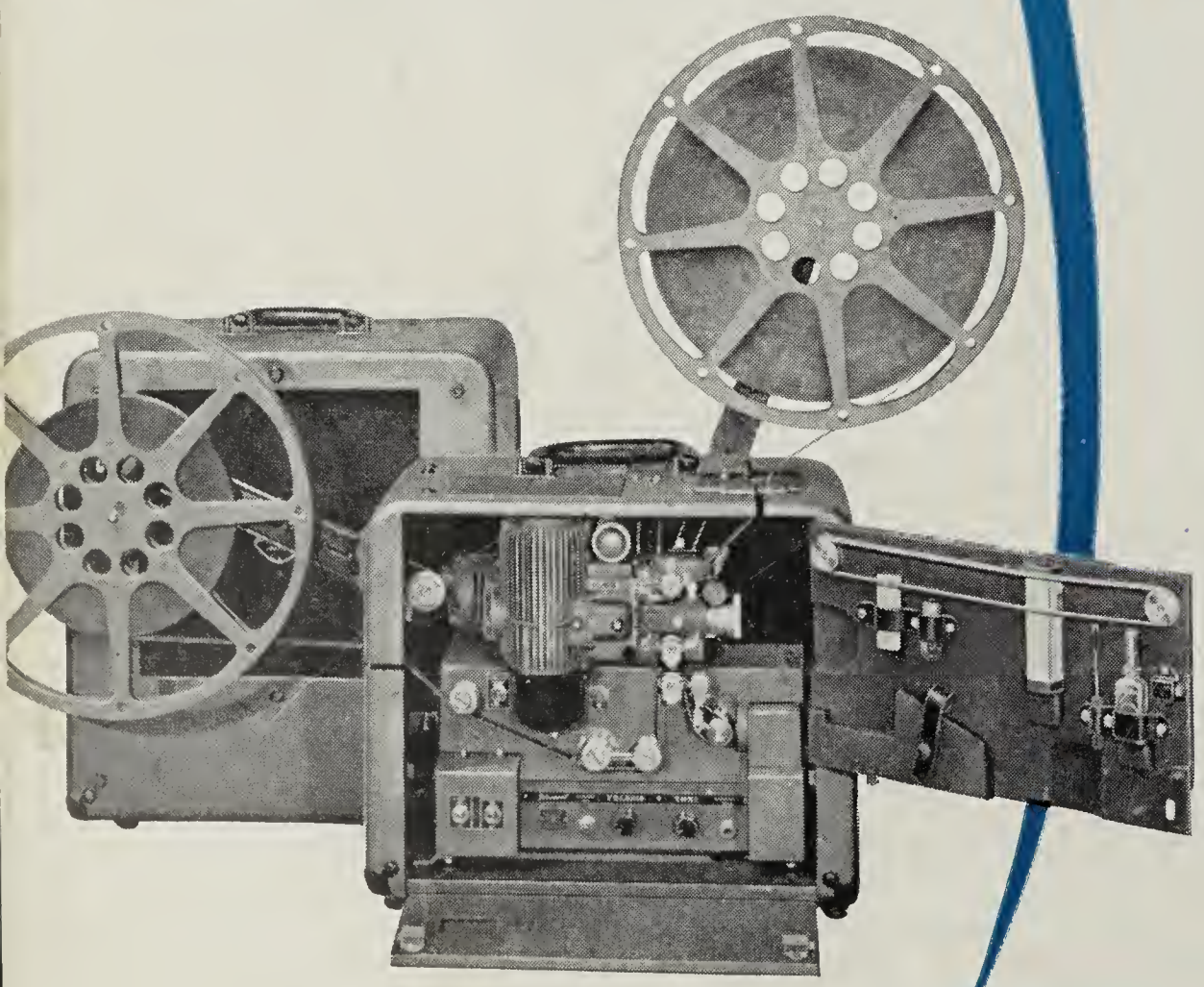
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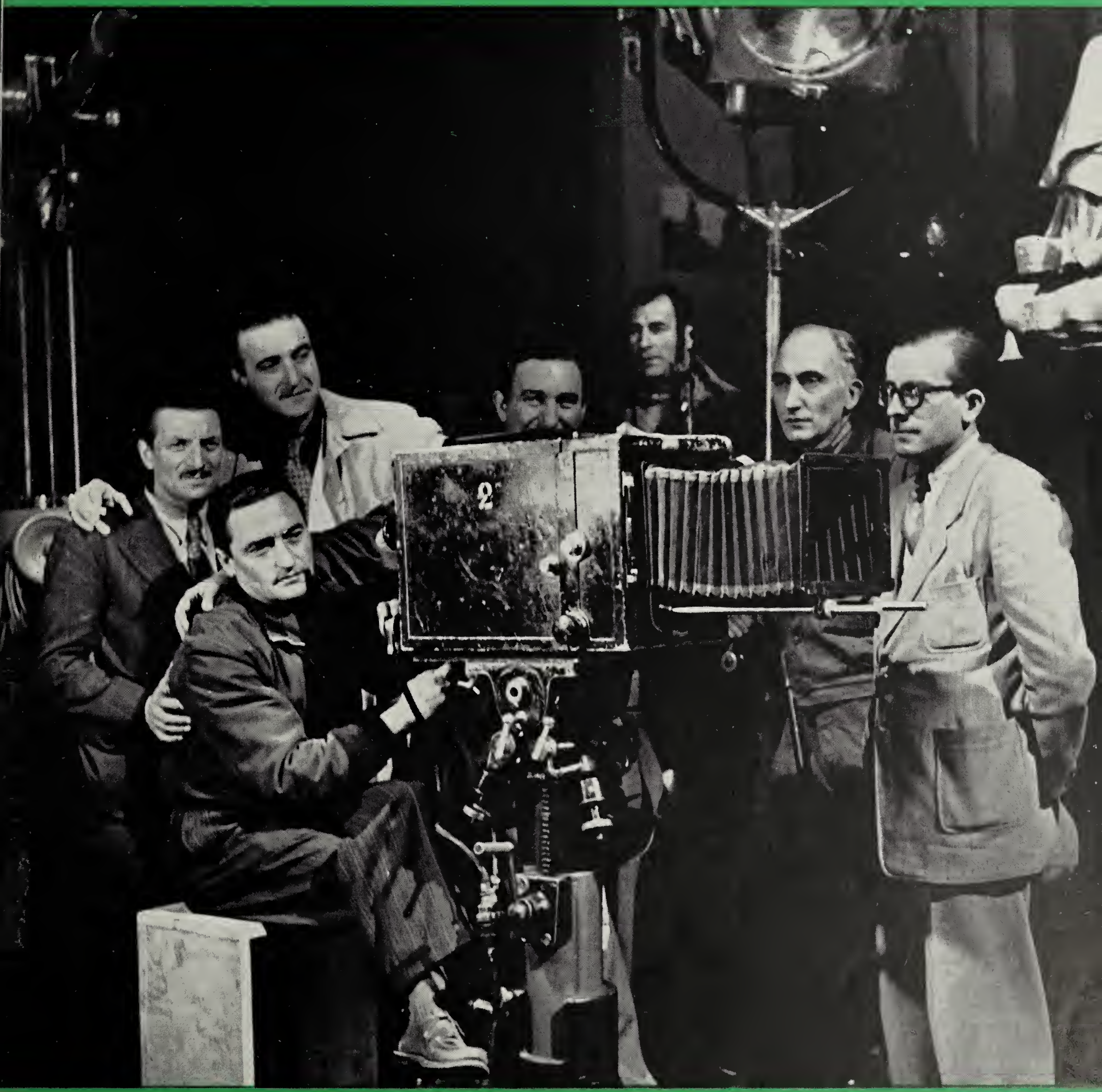
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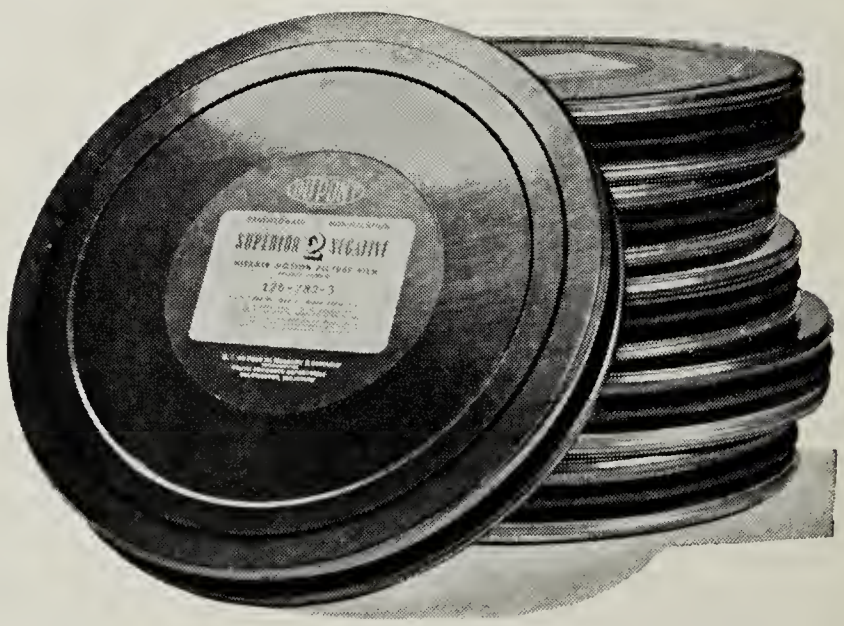


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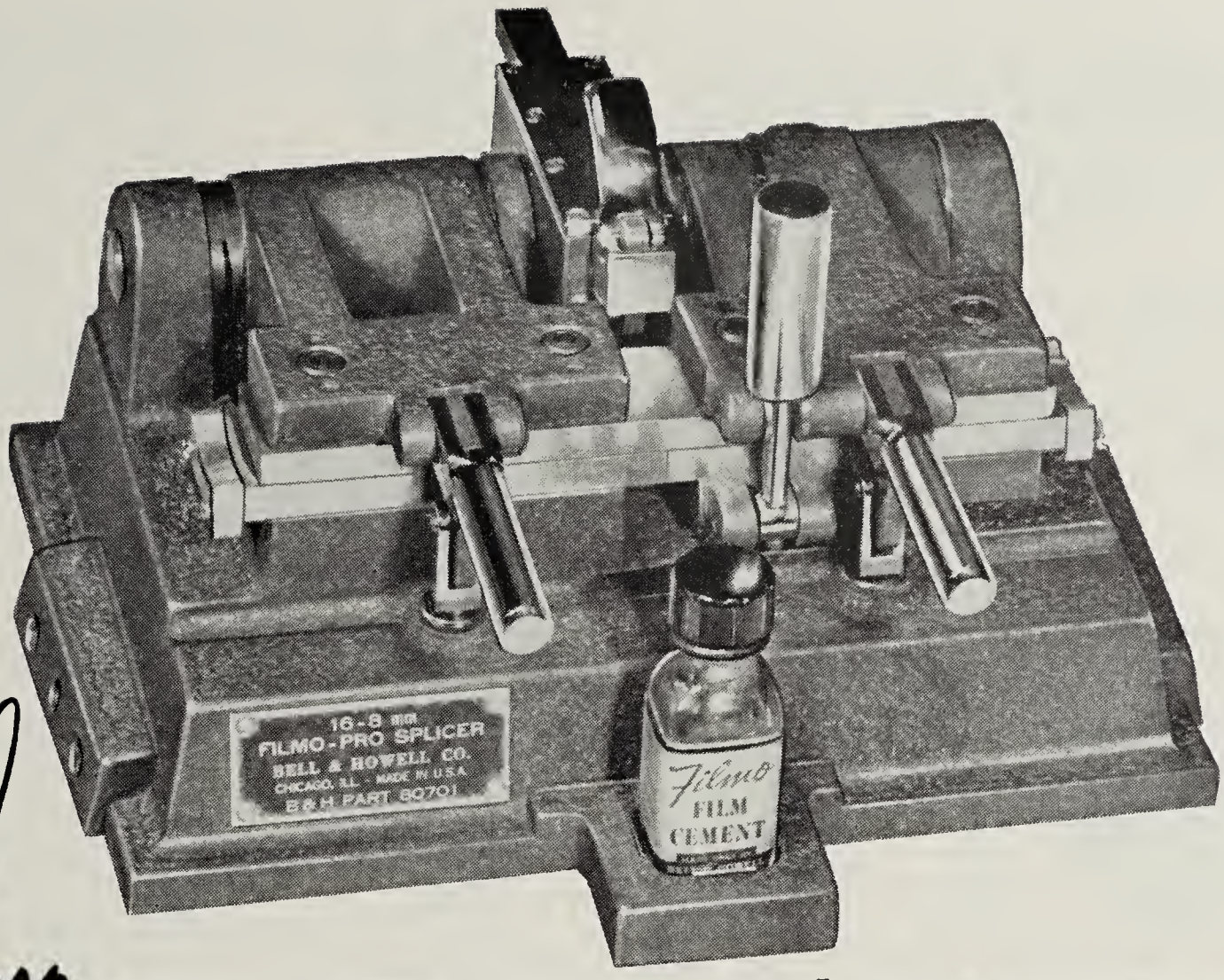
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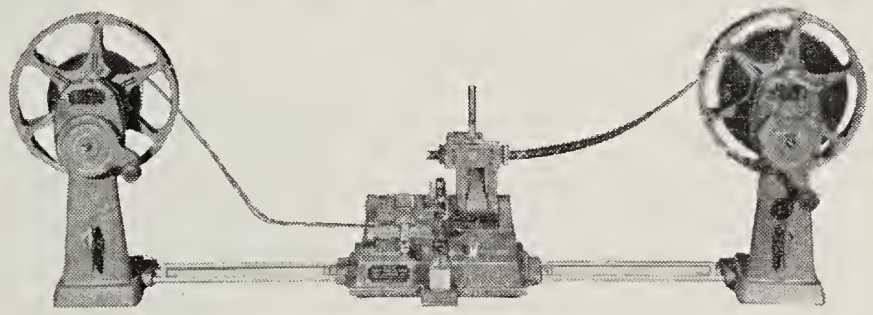
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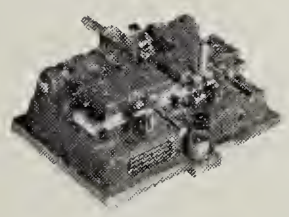
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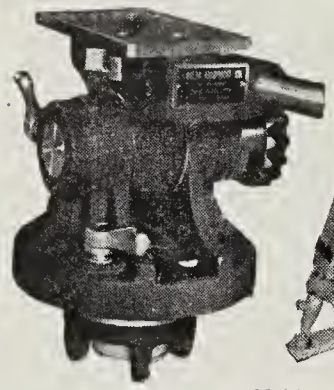
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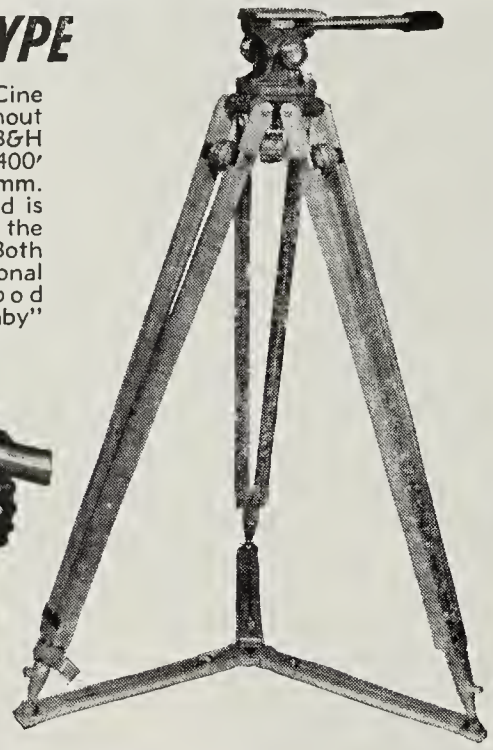
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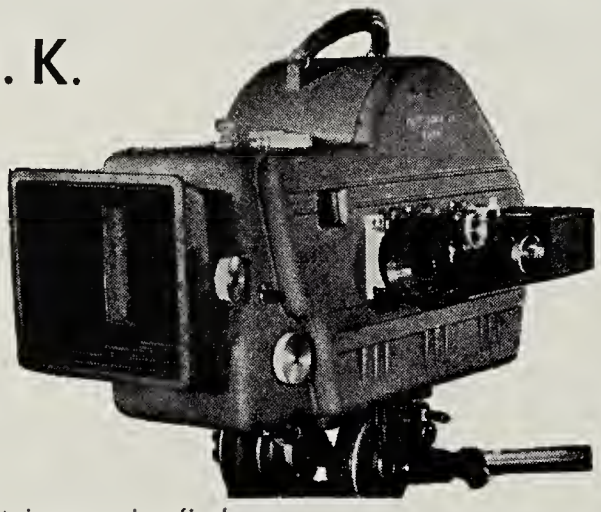
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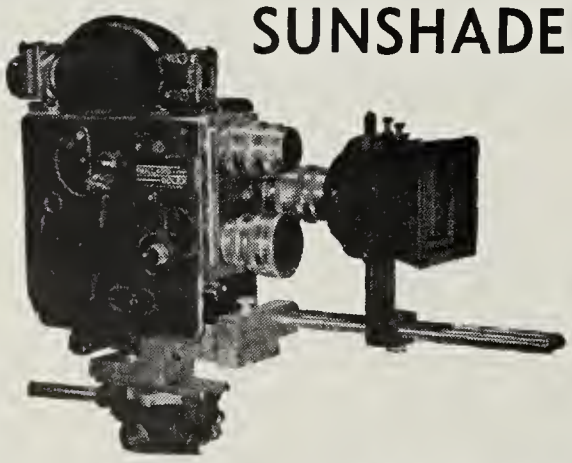


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CURRENT ASSIGNMENTS OF A.S.C. MEMBERS

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

★ ★ ★ ★ ★ ★ ★ ★

Columbia

•BURNETT GUFFY. "All the King's Men," (Robt. Rosson Prodn.) with Broderick Crawford and Joanne Dru. Robert Rosson, director.

•CHARLES LAWTON, JR., "Hounded" with George Raft, Nina Foch and George MacReady. Ted Tetzlaff, director.

•CHARLES LAWTON, JR., "Tokyo Joe," (Santana Prodn.) with Humphrey Bogart, Florence Marley, Alexander Knox, Sessue Hayakawa. Stuart Heisler, director.

•IRA MORGAN. "Blazing Trail," with Charles Starrett, Smiley Burnette and Marjorie Stapp. Ray Nazarro, director.

Independent

•LEE GARMES. "Roseanna McCoy," (Goldwyn-RKO) with Farley Granger and Joan Evans. Irving Reis, director.

•PAUL IVANO. "The Great Speculator," (Skyline-Film Classics) with Charles Ruggles, Peggy Ann Garner, Richard Ney, Alan Mowbray, Buster Keaton, et al. Richard Oswald, director.

M-G-M

•CHARLES ROSHER. "Neptune's Daughter," (Technicolor) with Red Skelton and Esther Williams. Edward Buzzell, director.

•HARRY STRADLING. "In The Good Old Summer Time," (Technicolor) with Judy Garland and Van Johnson. Robert Z. Leonard, director.

•CHARLES SCHOENBAUM. "Highland Lassie," with Lassie and Edmund Gwenn. Richard Thorpe, director.

•ROBERT PLANCK. "Madame Bovary," with Jennifer Jones, Louis Jourdan and James Mason. Vincente Minnelli, director.

•JOE RUTTENBERG, "Forsyte Saga," with Greer Garson, Errol Flynn, Walter Pidgeon, Robert Young and Janet Leigh. Compton Bennett, director.

•HAROLD ROSSON. "Any Number Can Play," with Clark Gable, Alexis Smith, Wendell Corey, Audrey Totter and Frank Morgan. Mervyn LeRoy, director.

•ROBERT SURTEES, "That Midnight Kiss," with Kathryn Grayson, Mario Lanza, Jose Iturbi and Keenan Wynn.

Monogram

•HARRY C. NEUMANN, Untitled Western, with Johnny Mack Brown, Max Terhune and Kay Morley. Lambert Hillyer, director.

Paramount

•STUART THOMPSON. "Dear Wife,"

(Continued on Page 69)

. . . it could start the ball rolling again

THE FOLLOWING is a condensation of a timely editorial by W. R. Wilkerson printed in the "Hollywood Reporter" for January 6th. The suggestion in the closing paragraph should prove of interest to every professional cinematographer.

"Years ago when this industry was fighting for a footing, a director and writer would get together, and in some instances a good cameraman would be brought into the planning, and they would combine their talents for the material of a picture and see it through production. Then, for some reason or other, the title of associate producer was coined to give a job to a fellow—relative, friend or just an acquaintance—and this fellow gradually moved into production setups, with the result that today the writer writes what the producer tells him and the director and the cameraman are brought in when the script is finished and are told to go to work and get the picture out.

"Writers complain they are hampered by the producer; directors, good and bad, blame their poor efforts on the actions of their immediate supervisors and still there seems to be no activity on the part of the front offices to prove or disprove these complaints. Of course the six or eight good producers who can be pointed to in our major plants, seem to have little trouble with their writers or their directors, and their joint accomplishments are the very things that are holding our business together.

"What's wrong with going back to the old idea of production, giving the load to the director, writer and photographer in the preparation of a script and its production, with only one of the very top studio brass supervising their efforts?"

—A. E. G.

★

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Editorial and Business Office: 1782 N. Orange Dr., Hollywood 28, Calif.
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VOL. 30 — FEBRUARY • 1949 — NO. 2

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ON THE COVER

STANLEY CORTEZ, A.S.C., took time out while photographing "The Man On The Eiffel Tower" at Joinville studios in Paris to have a camera turned on himself and his production staff. Gathered about the French Debrie "Super Parvo" camera are (left to right): chief gaffer Lou Lavelli, operative cameraman Andre Germain, Stanley Cortez, A.S.C., production manager Ruby Rosenberg, an unidentified technician, gaffer M. Freddie, and assistant cameraman, Jean Bouvet.—Photo by Sacha Massour.

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application.

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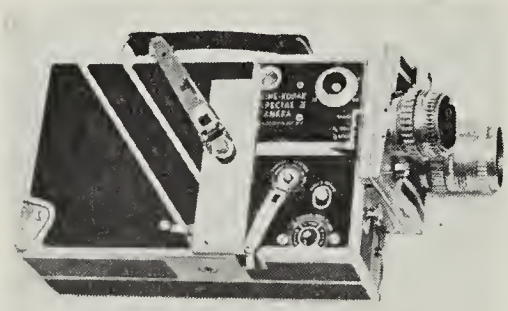
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Hollywood Bulletin Board

FINAL NOMINATING BALLOTS went into the mails January 28th, addressed to all directors of photography, following the screening of the last of the films nominated for Academy Awards for cinematography from the preliminary list submitted by the cameramen. A total of forty-seven black and white and color films were submitted for consideration, which were narrowed down to eighteen —ten black and white and eight color— in the preliminary balloting. The eighteen films and the cinematographers who filmed them are as follows:

Black and white: "The Big Clock," by John Seitz, A.S.C.; "Fort Apache," by Archie Stout, A.S.C.; "A Foreign Affair," by Charles B. Lang, Jr., A.S.C.; "The Snake Pit," by Leo Tover, A.S.C.; "Cass Timberlane," by Robert Planck, A.S.C.; "Johnny Belinda," by Ted McCord, A.S.C.; "I Remember Mama," by Nicholas Musuraca, A.S.C.; "The Naked City," by William Daniels, A.S.C.; "Hamlet," by Desmond Dickenson; "Portrait Of Jennie," by the late Joseph August, A.S.C.

Color: "Green Grass Of Wyoming," by Charles G. Clarke, A.S.C.; "The Red Shoes," by Jack Cardiff, A.S.C.; "An Ideal Husband," by Georges Perinal; "Joan Of Arc," by Joseph Valentine, A.S.C.; "Northwest Stampede," by John W. Boyle, A.S.C.; "The Three Musketeers," by Robert Planck, A.S.C.; "When My Baby Smiles At Me," by Harry Jackson, A.S.C.

Result of voting on ballots now in the mails will narrow the above list down to five black and white and four color films, from among which members of the Academy of Motion Picture Arts and Sciences will select the best film in each class. Winners will be announced at the annual Academy Awards presentation ceremonies to be held in Hollywood in March.

●

CONSTRUCTION HAS begun on the new projection booth for the American Society of Cinematographers' Clubhouse in Hollywood, and dedication ceremonies are scheduled for mid-February, according to Fred Jackman, executive vice-president of the Society, who, with Charles G. Clarke, president, and John W. Boyle, sergeant-at-arms, comprise the committee in charge of planning and putting the project into execution. Booth is a separate modern, fireproof structure located next to the clubhouse, on the south side, from which pictures will be projected through an orifice in the wall and onto a screen mounted on wall in the main assembly room. Both 35mm. and 16mm. sound projection facilities are provided for.

●

WHEN DANIEL FAPP, A.S.C., began his assignment, January 17th, of photographing Paramount's "Red, Hot And Blue," starring Betty Hutton and Victor Mature, event coincided with start of Fapp's twenty-sixth year of continuous employment at the Marathon Street studios. Fapp started as a film laboratory technician in 1923 and was elevated to head cameraman in 1941, with the assignment to film "World Premiere," starring John Barrymore, Francis Farmer and Ricardo Cortez.

●

WILLIAM BRADFORD photographed "The Necklace," 15-minutes television film produced by Marshall Grant-Realm Productions for American Tobacco Company, which won the award for "best film made for television" at the presentation ceremonies of Academy of Television Arts and Sciences held in Hollywood January 25th. Award, which is to be made annually, comprises of "Emmy" a statuette and feminine prototype of the "Oscars" awarded annually by the Academy of Motion Picture Arts and Sciences.

●

JANUARY TECHNICAL MEETING conducted by the American Society of Cinematographers featured an open forum on subject of the future of films in television. Present to answer questions asked by A.S.C. members were Edward Sobol, production supervisor of N.B.C., Robert Brown, television program director for same company, Bob Clarke, television operations supervisor, and William States, video control supervisor, also of N.B.C.

In response to continued interest in subject of latensification, Hollis Moyse, A.S.C., west coast representative for DuPont's photo products department, and Dr. C. R. Daily, of Paramount Pictures engineering department, exhibited films which demonstrated "before and after" latensification results.

Other honored guests were Preston Sturges, noted film director and producer, Edgar Bergen, A.S.C., radio and screen star, and Albert Smith, pioneer film man who organized the old Vitagraph Co.

●

CAPTAIN DON NORWOOD, who developed the well known Norwood incident light exposure meters, now widely used by both professional and amateur photographers, will soon announce a new, pocket-size color temperature meter of

(Continued on Page 68)

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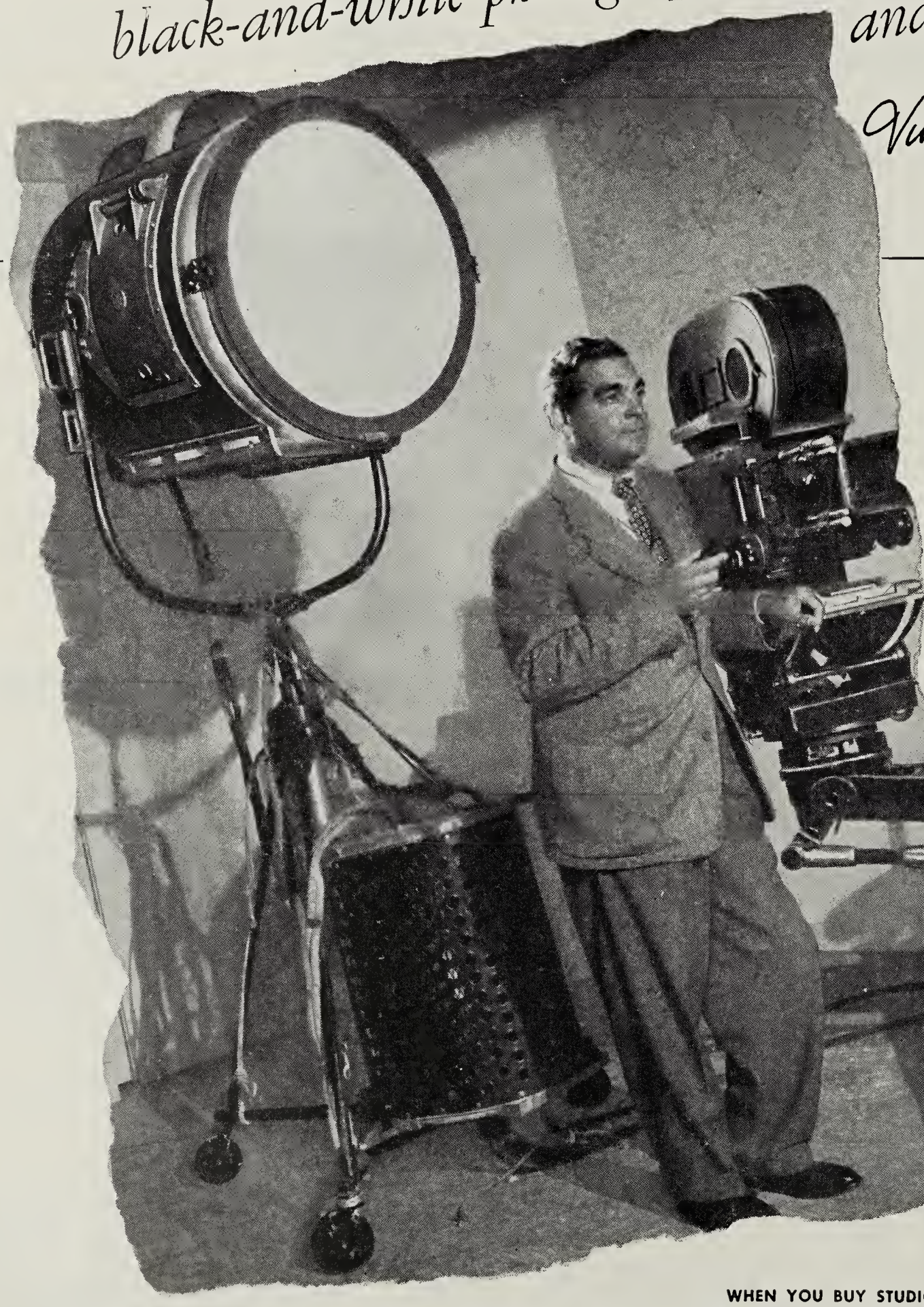
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WHEN YOU BUY STUDIO CARBONS — BUY "NATIONAL"



ALFRED HITCHCOCK (center) is one of few producers who values counsel of his cameraman in planning a picture. Hitchcock is shown here planning his famous production "Rope," while cinematographer Joe Valentine, A.S.C., (2nd from right) plots lighting and camera angles on blackboard.

The Case For The Cameramen

Greater economy in shooting pictures is often possible, not through careless, hasty camera-work, but in wiser production planning in which the director of photography is given a voice.

By LEWIS ADLER

CINEMATOGRAPHERS of Hollywood are agreed that one of the important things the producers should consider, in aiming for greater economy in motion picture production, is closer cooperation with the cameramen. The history of motion picture production shows that whenever a recession has struck the industry, the directors of photography invariably are among the first to be put on the spot for high production costs. There's a tendency to criticise instead of facing up to the facts.

We hear the same criticism again about the cameraman whose last picture required, say, forty days to shoot instead of the scheduled thirty. There's the needling of cameramen fortunate to be employed to "step on it"—"speed up!"—and the tendency of a producer to do a quick switch to some cameraman who has bragged of his ability to cut production costs by some strange new system.

Why is it that the cameraman becomes the "fall guy" in times like these? Why not the producer or the director, or the cast? Well, it happens that the cameraman is always in a tough spot, psychologically. It is he who makes the final moves in any production—getting the story on film. All the preliminary steps leading to this stage of production—the planning, set designing, casting, costuming, etc.,—all have been completed. There's an understandable impatience on the part of production heads to get their brainchild on film and on the screen. Any delay by the cameraman is thus magnified greatly out of proportion.

So much of the delay for which the cameraman is blamed today often has its origin in inept planning and preparation in the first place—delays that could have been avoided had the cameraman sat in with production heads when the picture was being planned.

Our producers' shortsightedness here was quite clearly revealed when a European cameraman, on his recent visit to the United States, related how harmoniously British production heads work with the cameramen in planning a picture before it goes before the camera. The better pictures that have come out of London studios recently show this, as we have seen in such productions as "Hamlet," "The Red Shoes," and the as yet unreleased "Under Capricorn."

Delays on the set which so often reflect unfavorably on the cameraman are quite frequently brought about through shortsightedness in planning and by inexcusable ignorance of the cameraman's problems. Despite the knowledge of the art director and the producer, it is always possible for the cameraman sitting in on a planning session to suggest many shortcuts. On the other hand, if those who plan and design sets have not a full conception of the cameraman's problems on the set, time wasting situations are bound to arise when it comes time to shoot the picture.

It happens also that the cameraman is frequently hamstrung by the personal foibles of many stars and directors. Some stars and featured players have provisions in their contracts with the studios stipulating they may use the makeup of their choice. What this so often involves is a dispute over unbecoming makeup, which results in a delay in the shooting. Many times after a study of the daily rushes clearly shows how wrong a player is in insisting on certain makeup, it is the cameraman's lighting that is blamed. What the player, and his or her sympathizers are unaware of, of course, is that often different combinations of lights and type of film will alter the photographic results of makeup.

Directors, too, are often responsible for costly delays. Some will shoot from five to twenty takes of every scene, but if the cameraman halts the proceedings for just a moment to adjust a light, they are quick to complain. Such directors are constantly on the spot for slowed production and often succeed in passing the buck to the cameraman. Those in the

(Continued on Page 65)



ATOP Paris' Eiffel Tower, Stanley Cortez (foreground) shoots dramatic scenes for the man-hunt sequence in "The Man On The Eiffel Tower." At left is Korganoff, his aide and interpreter, while behind the Debrie camera sits operator Ney.



PARISIANS were interested onlookers at every location site. Here Cortez is setting up his camera in a public square, where reflectors were used to implement the sunlight for color photography. Picture was filmed in Ansco Color and processed in Hollywood.

Filming "The Man On The Eiffel Tower"

Enthusiastic cooperation of French film technicians offsets power and equipment shortages encountered by Stanley Cortez, filming first major Ansco Color production in France.

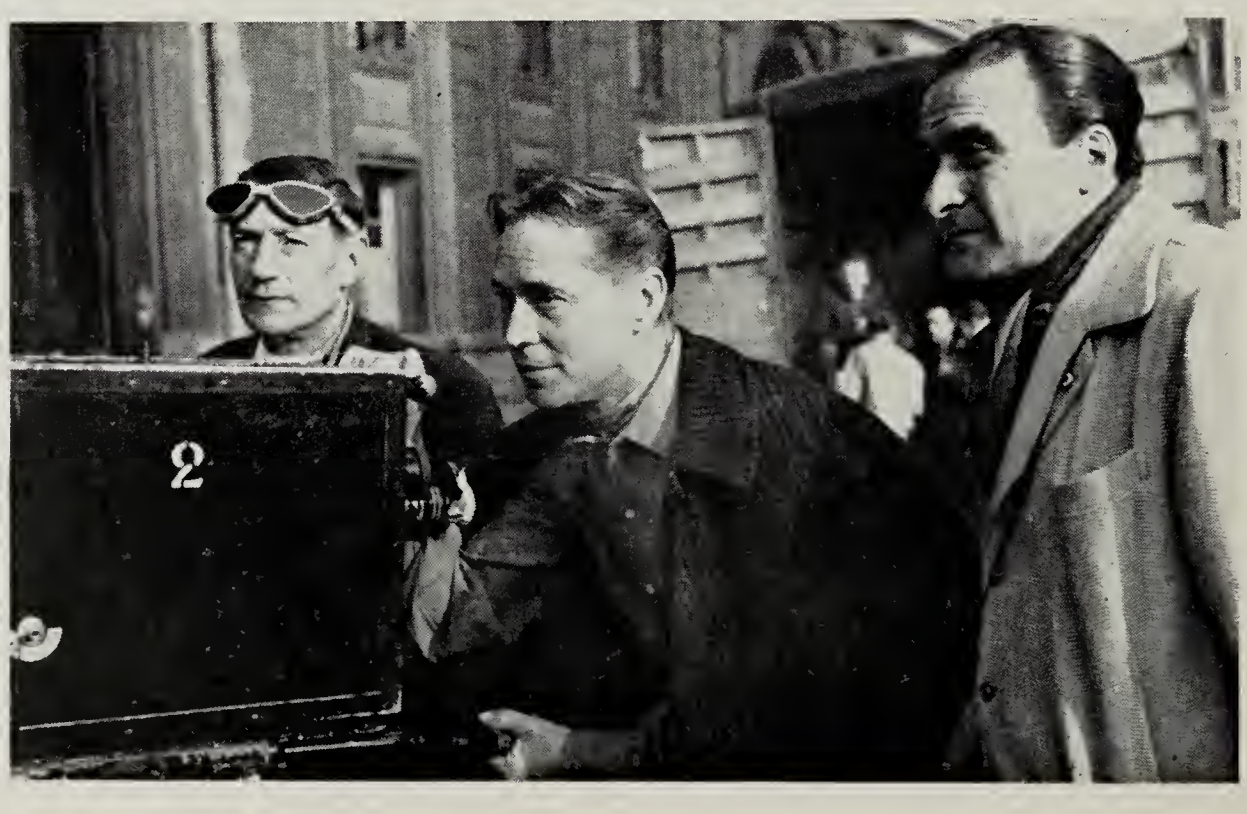
An Interview With

STANLEY CORTEZ, A.S.C.

IT'S COMPARATIVELY simple to produce a color motion picture in Hollywood, where both equipment and technicians are abundant, but in Europe it's quite a different thing, according to Stanley Cortez, A.S.C., who recently returned from France where he photographed "The Man On The Eiffel Tower" in Ansco Color. The first regular feature film ever produced in France entirely in color, coupled with the fact that it employed Ansco Color extensively for the first time both indoors and out, made this one of the most challenging photographic assignments ever given a Hollywood director of photography.

"The two studios which we used—Billancourt and Joinville," said Cortez, "had been occupied by the Germans during the war. When they retreated, they sacked both studios of every available piece of equipment, leaving only the bare walls. It has been a heartbreaking job ever since for the gallant French technicians who are trying to refurnish their studios with the modern equipment necessary to full scale motion picture production."

When Cortez first arrived in France, he found the equipment situation quite disappointing. There were not sufficient lights in the two studios to meet the requirements of color photography. But he promptly remedied this deficiency by



FRANCHOT TONE, one of the stars and co-producer of "The Man On The Eiffel Tower," checks on a camera angle through viewfinder of the Debrie camera.



DIRECTOR Burgess Meredith's keen interest in the cameraman's problems contributed much to success of the production, according to Cortez, shown here explaining camera angle to Meredith.

going to London and acquiring the necessary lamps, which he shipped to Paris by air. The French technicians were somewhat unfamiliar with this new lighting equipment, but it did not take them long to get on to it.

Cortez, too, was faced with new and strange equipment—the Debrie Super Parvo camera. But this camera, in spite of the fact it takes film with the winding reversed from the standard we know in America, proved an excellent one.

"It is mechanically superior to many 35mm. cameras I have seen," said Cortez, "and its complement of excellent Cooke lenses was an encouraging note that augured well for success of the photography I was about to undertake."

The shortage of coal in France presented still another problem, for without coal there could be no electricity—and there were days, Cortez said, when there actually wasn't any. During the time he was in France, electric power was being rationed among all large commerical consumers by restricting use of electricity to only a certain number of days each week. In the case of the studios, both Billancourt and Joinville were inoperative two days each week because of these restrictions.

"Happily, the two days that Billancourt studios were without power, "Cortez said, "Joinville studios, several miles distant, had it; so on those days we would transport our camera, lighting equipment, and any necessary props or sets to Joinville and work there—returning to Billancourt when the rationing edict darkened the stages at Joinville.

The friendly cooperation afforded the

(Continued on Page 64)

Mercury Cadmium Lamps For Studio Set Lighting

General Electric Company is readying a new lighting source offering brilliance and color temperature ideal for both color and monochrome films.

By RALPH B. FARNHAM

THE following is a transcript of a talk given before members of the American Society of Cinematographers by Ralph B. Farnham. General Electric Company lighting engineer, at a recent meeting of the Society in Hollywood.—EDITOR

"IT HAS always been the policy of General Electric Company to work very closely with the men of the A.S.C., with studio electrical chiefs and with equipment manufacturers in trying to provide lighting equipment that will meet their needs.

"Recently we felt that our mercury cadmium lamp had reached the point in its development where we should make some tests with it with color film, and find out whether the lamp itself was now ready where we could proceed with the next step.

"You cinematographers have always shown a great deal of interest in lighting, and we felt that it would be quite worthwhile to talk with you, find out what some of your lighting problems are, and what you require today as a light source. We did this when we were planning incandescent lamps many years ago and we are doing the same thing this time.

"About a year ago last September my associate, Mr. Carlson, talked before the local section of the Society of Motion Picture Engineers, at which time he mentioned the British developments of the mercury cadmium lamp, which was an outgrowth of certain war-time activities. He outlined a number of salient features of the mercury lamps and some of their advantages and disadvantages.

"During the past fourteen months, we have not been at all idle. We have first been working on a development program on the light itself. You realize that we've got to have the lamp somewhere near a working device before we can proceed with equipment design. We feel that we have designed a lamp that is fairly close to what we may eventually provide to the studios. Of course, there will be a number of refinements.

"Our next step is going to be in the matter of suitable equipment because, as was outlined in the technical paper that Mr. Carlson read before the S.M.P.E., there were quite a number of problems to be met at that time. I think it is well that I review them briefly and tell you what progress we have made.

"You appreciate that the development of any equipment must follow development of the lamp. We cannot develop the equipment first and then develop a lamp to fit it. The equipment must evolve from the electrical characteristics of the lamp.

"As I have already stated, I am here in Hollywood chiefly to make the tests with Technicolor. Naturally they wanted to consider the lamp's possibilities in making color pictures, knowing that if it satisfies the needs of color photography, the chances are that it will work very well with black and white. Those tests have been completed and I'm quite happy to report that the color of the light from the lamps, as we have been making them, is very close to that required by Technicolor.

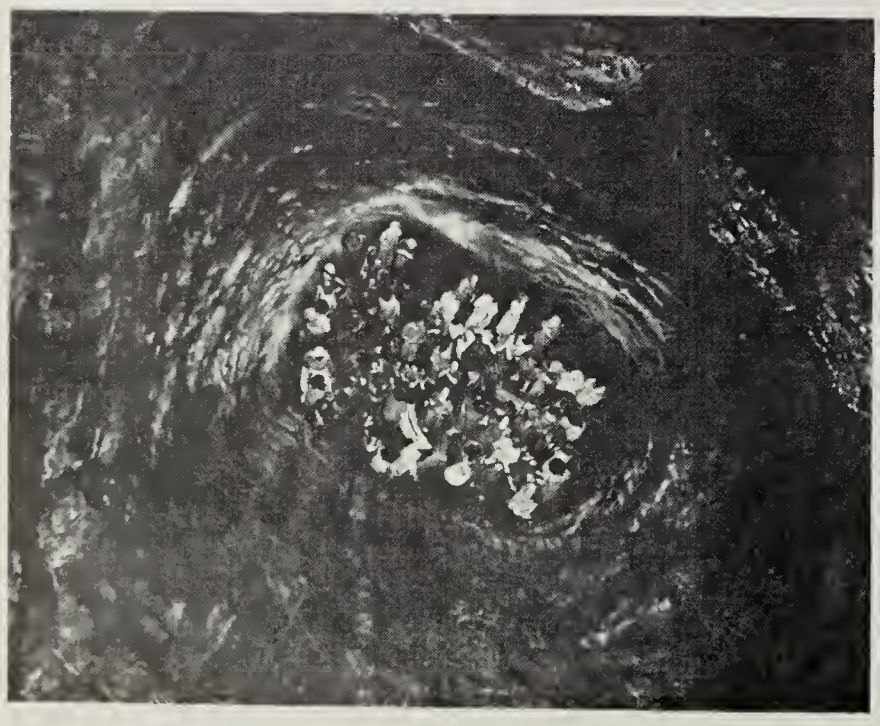
(Continued on Page 58)



A DRAMATIC sequence of photography highlights "The Snake Pit" which depicts the heroine imagining herself in a deep serpent's pit. Here Leo Tover, A.S.C., on camera boom, lines up his camera for what is to be a vertical crane shot.



THIS IS what the camera sees as it starts to roll—the heroine seated among scores of weirdly gesticulating inmates of the asylum. The camera then moves upward . . .



. . . leaving the mass of pitiful humanity far below. Fred Sarsen, of Twentieth Century-Fox's special photographic effects department, completed the cinematic illusion of a deep pit which climaxes this startling sequence.

The Snake Pit

The demand for stark realism challenged the cinematic resources of Leo Tover, A.S.C., whose camera faced shocking facts to record a dramatic story of mental illness.

By HERB A. LIGHTMAN

"THE SNAKE PIT," Twentieth Century-Fox's filmnization of the Mary Jane Ward novel, is being hailed by critics and public alike as *the* significant motion picture of the year—and rightfully so, since it brings out into the open a subject that has hitherto been whispered about as if it were a stigma instead of a curable ailment: mental illness.

But aside from the evident social significance of the film's theme, the producers and technicians are to be congratulated upon having delivered a finely wrought piece of cinema. "The Snake Pit" is an honest picture and its theme has been honestly treated by the director, the writers and the cameraman who translated it into film. It serves, also, as an example of the high quality that results when technicians work closely together, subordinating their own personal egos to the main purpose of turning out a really good picture.

Rarely has Hollywood known such close collaboration as existed between director Anatole Litvak and director of photography Leo Tover, A.S.C., during the filming of this off-the-beaten track motion picture. They were in continuous huddles between takes—and as a result, the film reveals a singleness of approach between direction and camera that is not only rare, but tremendously effective in presenting a theme which is at best difficult to interpret with force and good taste.

Leo Tover, for many years now one of Hollywood's foremost aces of the camera, was borrowed from Paramount by 20th-Fox especially to photograph "The Snake Pit." It was a happy choice. His camera is exactly right for the production—dramatic without being "arty," polished without being glamorous. Most important of all, it is honest in its rendering of the values of the script.

"The Snake Pit" is not, strictly speaking, a cameraman's picture. It is a double-barreled appeal to the emotions and to the intellect, that depends for its force primarily upon direction and acting. It offers no elaborate sets, no striking costumes, no floods, tidal waves or hurricanes for the cameraman to chew upon. And yet, Tover's camerawork, though free of artifice, makes it a visually potent film.

The photography throughout the pitcure has a graphic quality that is urgently realistic. Without being harsh or loaded down with shadows the lighting suggests that the events portrayed upon the screen are really happening. The eye of the camera faces shocking facts without blinking. It records an accurate, unvarnished, dramatic history of one mental case out of many—and does so in a way that is visually absorbing.

(Continued on Page 62)



COLOR-TRAN lighting equipment was recently given exhaustive tests by Twentieth Century-Fox studios. Here lights are being arranged on a set, preparatory to filming test shots.



THE SET, fully lighted by Color-Tran units and being photographed. The result on film was comparable with that achieved when heavier, studio equipment is used.

Packaged Illumination

New Color-Tran lighting equipment utilizes stepped-up voltage and regular illumination lamps in providing color temperature controlled lighting for both studio and location filming

By FREDERICK FOSTER

ALL THE LIGHTING equipment needed to illuminate the average studio or location set you can carry in two suit cases, thanks to the genius of Tom Hunt, of Hollywood, and his Color-Tran lighting kits. Even more interesting, the lights are operated from regular 110 volt current lines—no generators are needed. The lights burn low while you line up the camera or rehearse, then are switched to full peak for the take. The resulting illumination is perfect for color photography as well as for black and white.

The Color-Tran lighting outfits have proved ideal not only for the small 16mm. film producer and makers of films for television, but the major studios are finding them of practical use, too. Charles Clarke, A.S.C., and Sol Halperin, A.S.C., recently put them through exhaustive tests at Twentieth Century-Fox studios. Regular users are Columbia Pictures, M-G-M, and Universal. Among the 16mm. film producers using Color-Tran lighting equipment are Roland Reed Productions, IMPPRO, Bray Studios, and Donahue Productions. Apex Corporation's cameramen Tom Tutwiler, A.S.C., and Bob Pittack, A.S.C., have used Color-Tran lighting with Monopak film in shooting scenes for the series of training films the company is producing for the Army. Paul Ivano, A.S.C., flew Color-Tran equipment to Honolulu to provide illumination for location shots he made within the lobby of the Royal Hawaiian Hotel. The units (Ivano used several), weighing less than 600 pounds in all, fulfilled his needs as completely as would

(Continued on Page 61)



INDICATING the compact and easy-to-carry features of Color-Tran lighting kits are these photos which show (1) case containing the collapsible standards, lamps and two snoots and, (2) case containing 3 Color-Tran spots, 1 Grover broad, the Color-Tran and necessary cables. Next is shown the Grover broad which is equivalent to a 1000 watt broad used in studios—and, finally, the spot light complete with barn doors and diffusion screen. Two snoots of different sizes are also supplied for use with the spot lights. The two-case unit is capable of lighting most small indoor sets, using ordinary 110 volt current. These units are shown in use in photos at top of page.



THE MODERN method used in most TV stations today for projecting films to the pickup tube is shown in this view of station WSPD's (Toledo, Ohio) film department. Latest type RCA 16mm. tele-film projectors are shown at 1 and 2. White dotted line shows path of beam from projector 1 to mirror 3, and thence to pickup tube (not shown). Department also is equipped for intercutting slide projection and titles with both live and film program material.

The Use Of Films In Television

A British view of the present scope of television films and what the future may hold for them.

By P. H. DORTE
British Broadcasting Company

BECAUSE Great Britain's interest in films for television so closely approximates our own and because, in many instances, their experience with use of films has been greater than that of many TV stations in the United States. the following article is being reprinted from the December issue of the CINE-TECHNICIAN, British trade publication. Author P. H. Dorte is head of the outside broadcasts and films department of B.B.C.'s video division. His remarks should be of vital interest to everyone planning the production of motion pictures for television.—EDITOR.

IT IS IMPOSSIBLE to forecast with anything approaching accuracy the part which film will eventually play in broadcast television, either in Great Britain or anywhere else. Only one thing is certain, and that is that local circumstances will exert considerable influence, because television broadcasting systems with limited local talent to tap will clearly use more film than will those systems which can call on the cultural and other resources of such cities as London. Paris and New York.

Thus I can write with certainty only on the use of film by B.B.C. Television Service of the present and the near future—a service which has six principal uses for it, all of almost equal importance but not all necessarily employed to the same extent.

The first is to bring to the home television-screen, typical or interesting happenings in the great outside world beyond the range of our outside broadcast units—and also to reproduce in the evening events which have been made the subject of outside broadcasts during a weekday when the majority of viewers have been at work and thus unable to see them. The B.B.C. Television Newsreel, and B.B.C. and commercial documentary films, fulfil this function.

The second—and the one for which the B.B.C. Television Film Unit was originally formed—is to provide scenes which, for various reasons, it is impracticable or inconvenient to produce "live" in the television studios. This means, at the present time, establishing exteriors and also complete scenes which, in a dramatic production, call for rapid changes in costume or make-up. Later it will mean back-projection plates as well.

The third is to provide illustrations for Talks and/or Documentary programs. A talk on, say, the Middle East by an eminent authority on that part of the world is clearly more interesting, even if not more factual, if he illustrates it with film actually shot there. If he uses the film unimaginatively the whole is, of course, merely a glorified magic lantern show; if he uses it intelligently he can bring to the person who has never been there an entirely new conception of Middle Eastern problems.

The fourth use of film in B.B.C. Television programs is for the producing of an effect which, on account of the present technical limitations of television, just could not be produced any other way. I refer, of course, to the cartoon, whether for diagramatic purposes or as a complete entertainment picture.

The fifth use is to furnish television screen time when it is impracticable to do so by other means; to fill in when rain cancels or curtails a scheduled outside broadcast or when, as has happened before now, sudden illness or an accident to a leading artist billed to play in a studio production makes it impossible to stage that production as advertised.

The sixth and last use of the film in television is for subsequent repeat of programs which have been first submitted "live"—viz. recorded television. Recorded television has so far only been used experimentally by the B.B.C., but it is making considerable headway in the United States and, with the installation of new equipment at Alexandra Palace, will in the future doubtless have an important role to play here too.

You may have noted that in this list I have not referred specifically to the feature picture, although I have implied a use for it as a substitute for live programs under specified con-

(Continued on Page 60)

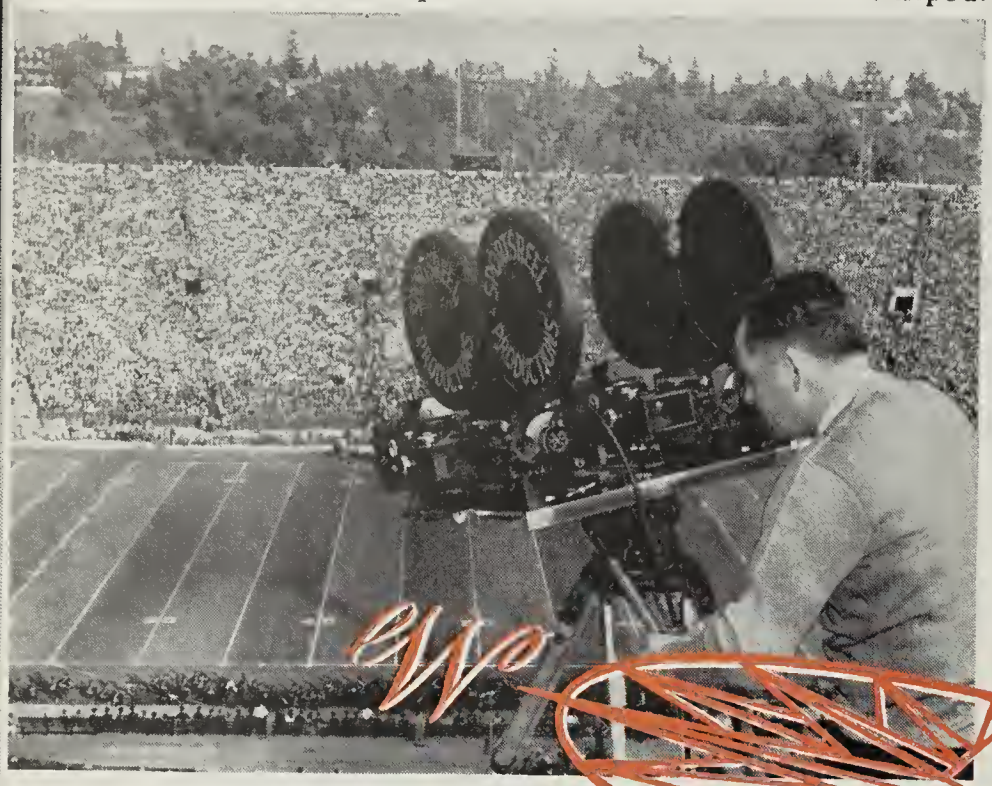
Better Pictures
In 1949
Will Be
Photographed
In Black and White
And In Color
With a Wide Range Of
EASTMAN
NEGATIVES

Always
EASTMAN
Always The Best

And— Of Course—
BRULATOUR
SERVICE

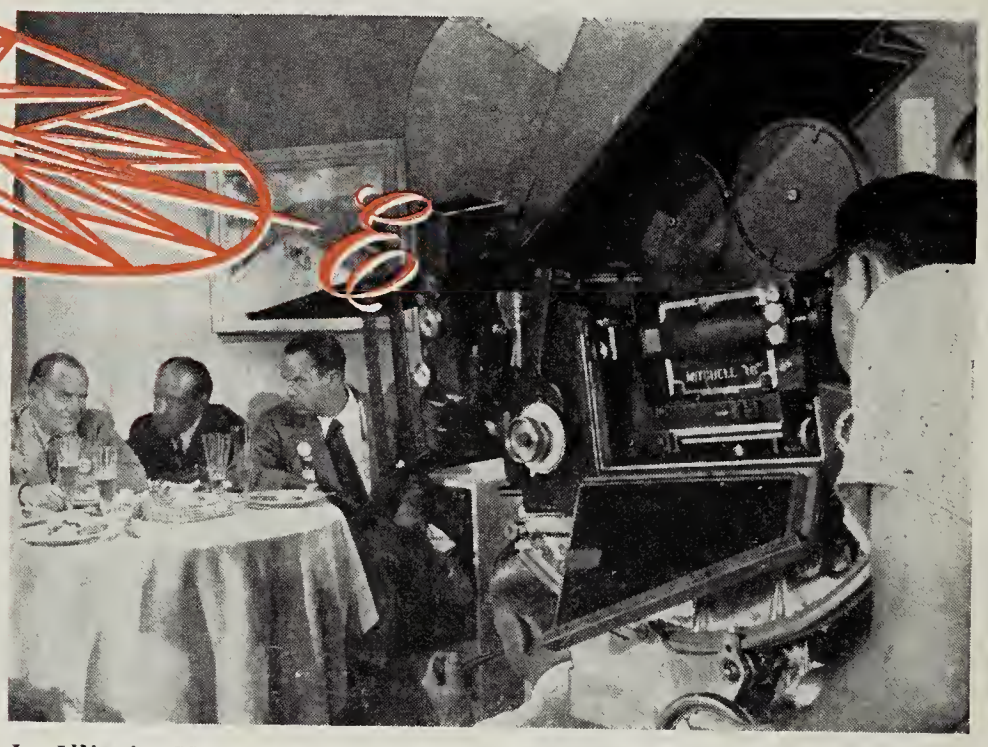
J. E. BRULATOUR, INC.
FORT LEE CHICAGO HOLLYWOOD

In California—To deliver two Kodachrome originals of the 1949 Rose Bowl Game, Walter D. Porep uses two Mitchell "16"s on one tripod.





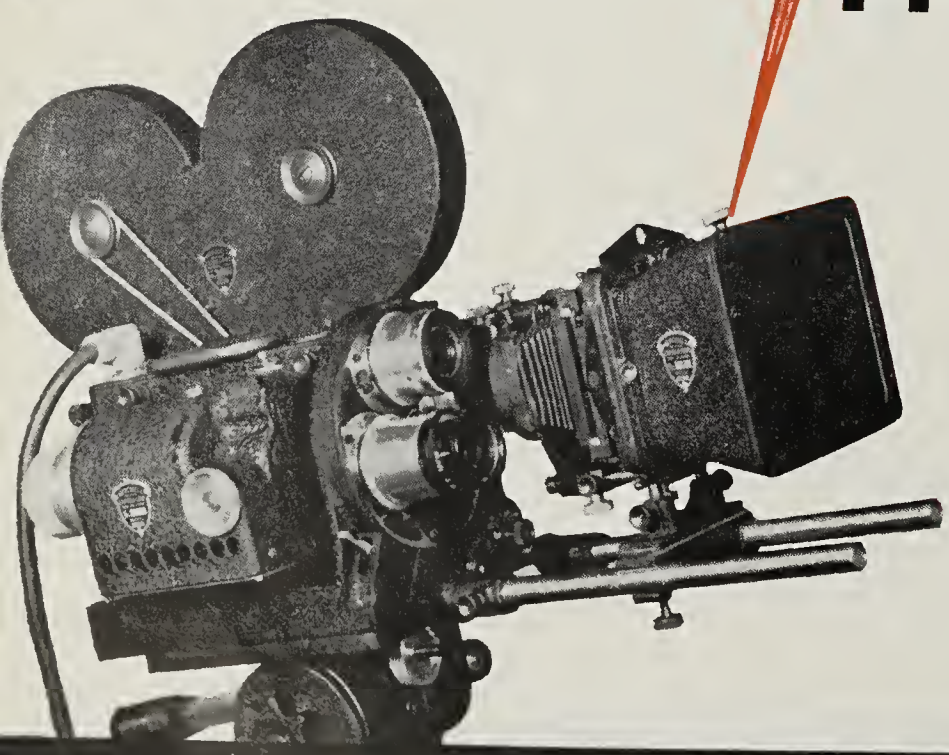
In South Dakota—Reid H. Ray Film Industries uses two Mitchell "16 to shoot different angles simultaneously in filming the "Passion Play



In Illinois—Vogue-Wright Studios, Inc., use Mitchell "16" to film full color production for the Firestone Steel Products Company.

Wherever 16 mm Movies are filmed...

Mitchell "16"



Professionals *make News*

Throughout the world 16 mm films are achieving spectacular successes in the fields of Religion, Education, Business and Industry, and Entertainment. New and Better production techniques, and truly professional camera equipment are contributing to the growing reputation of 16 mm films.

First to bring 35 mm quality to 16 mm film, the Mitchell "16" Professional Camera has won the recognition of producers who demand versatile motion picture equipment to meet every condition. The Mitchell "16" has the same smooth, positive operation, workmanship and time-proven features that have made 35 mm Mitchell Cameras world famous as standard equipment of the major studios.*

Mitchell is proud of the important part the "16" Professional is playing, and *is destined to play* in the continuing development of new techniques in filming better 16 mm productions.

Mitchell Camera CORPORATION

666 WEST HARVARD STREET • GLENDALE 4, CALIFORNIA • CABLE ADDRESS: "MITCAMCO"

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85% of the motion pictures shown in theatres throughout the world are filmed with a Mitchell

Two-Camera Man

Use of dual 16mm. cameras enabled Walter Porep to accomplish an unusual filming assignment of the 1949 Rose Bowl game.

BY WALTER HAZLETT



THE TWO Mitchell 16mm. cameras were mounted on a special base attached to the tripod and fitted with special 1000 foot magazines. From this vantage point cinematographer Porep photographed the entire game, supplying both teams with identical original 16mm. Kodachrome records of the contest.

WHEN Rose Bowl contenders, University of California and Northwestern University, both wanted a complete film record of the 1949 Rose Bowl game in original 16mm. Kodachrome, cinematographer Walter D. Porep obliged by mounting two Mitchell 16mm. cameras on one tripod, operating both cameras simultaneously. Each University could have engaged separate cameramen, but Porep's fame as a skillful filmer of football contests had impressed the coaches of both colleges and both insisted that Porep was the man to record the very important Rose Bowl classic for them. Porep's resourcefulness in providing the dual camera setup made it possible for him to please them both.

In Berkeley, California, Porep specializes in 16mm. cinematography. He became a movie photographer after an extensive career as a free lance still photographer. A sports enthusiast for more than 20 years, he decided about eight years ago he'd like to make pictures of sports events and bought a Speed Graphic camera and then a 5 by 7 view camera, which enabled him to cover almost any type of sports event. But football was his favorite, and as the idea of making 16mm. movies of grid games caught on among college coaches, as a means of providing analysis and study of the players in action, Porep decided there was room for a good football movie photographer on the Pacific Coast.

At that time, most of the big colleges throughout the country and many of the high schools were making movies—or having movies made—of every important game in which their players engaged, as well as some practice scrimmages. It had been seen from the very beginning that such films, especially when filmed in slow motion, could be of immeasurable aid in coaching, by providing the means for analyzing players' action on the field.

Porep ordered a new Mitchell 16mm. Professional camera, which was delivered just in time to enable him to cover opening games of the 1947 football season. His still photography experience in grid stadiums gave him an advantage, of course, but Porep had not relied on this entirely.

"I was fortunate that living in the San Francisco Bay area at the time," Porep said, "was Fred MacCondray who is regarded by many as the outstanding football movie photographer in the country. From time to time I had opportunity to view MacCondray's movies and they were very helpful, reflecting his outstanding technique."

To be a good football movie photographer, one almost has to be a quarterback, according to Porep, in order to be able to anticipate and follow the plays throughout the game. "Of all the games that I have watched through my camera viewfinder, I think the team that displayed the greatest deception in their attack was University of Michigan in the 1948 Rose Bowl game. I was fortunate, however, in being able to follow every play perfectly with the camera. The coach at Michigan, for whom I filmed the game, later paid me a most encouraging compliment by stating that the movies were the finest that he had ever seen of a football game."

About 95 per cent of the football teams in the nation today use the "T" formation, in which the quarterback does all of the ball handling, and most of the faking. The more deceptive a quarterback may be, the more difficult it is to anticipate and cover his plays with the camera. Porep has filmed some of the outstanding quarterbacks of the nation in action during the last two years, including All-American Johnny Lujack of Notre Dame. However, far and away the most deceptive ball handler, according to Porep, is 18 year old Eddie Lebaron of College of Pacific.

Porep photographed the entire College of Pacific 1948 grid schedule and as a result of his fine work, has been engaged to cover the College's grid games in 1949.

Photographing the 1949 Rose Bowl game proved Porep's most challenging assignment, first because simultaneous operation of two cameras was involved and second, because New Years day, 1949, in Pasadena was probably one of the most unsatisfactory for color filming in Rose Bowl records. Despite all this, however, Porep delivered a complete original Kodachrome record of the game, from kickoff to final whistle, to each of the teams.

To accommodate the two Mitchell 16mm. Professional

(Continued on Page 66)



FIG. 1—Typical long shot with a one-inch 16mm. camera lens. The perspective will change if we (1) move in closer with the camera or (2) use a lens of different focal length, as shown in Fig. 3, below.

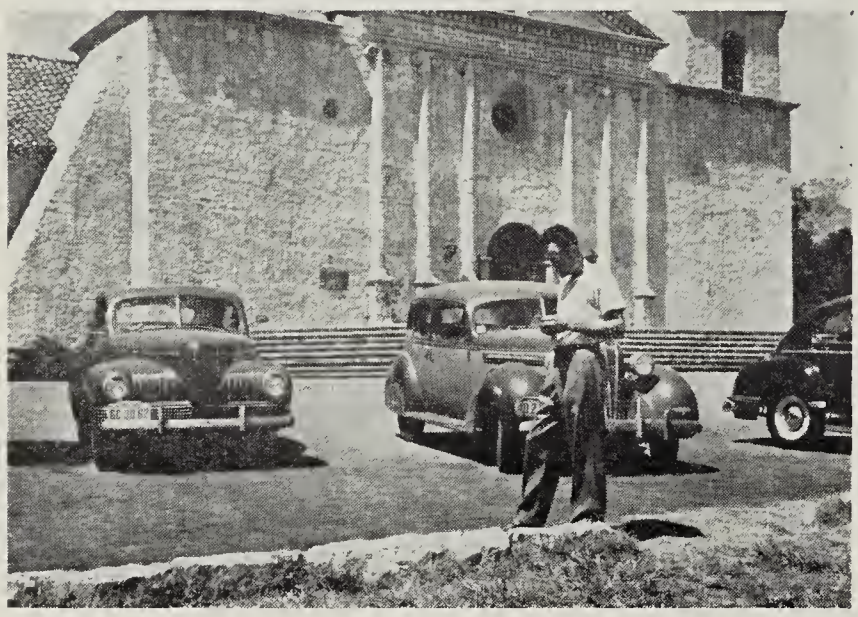


FIG. 2—Medium shot made with camera eighteen feet from subject in foreground. By moving in with camera, picture area is greatly diminished and attention centered on subject.



FIG. 3—A telephoto shot made with camera 75 feet from subject. Man is same size as in Fig. 2, but the perspective is changed completely. Note how background is made to appear closer to subject.

Lens Lore

You need more than one lens if you're going in for serious cine photography. Here, briefly, are some facts regarding wide angle and telephoto lenses.

By DONALD B. CALAMAR

NO AMATEUR movie maker can really appreciate the value of a telephoto or wide angle lens until he uses one. With so many telephoto and wide angle lenses being offered the amateur today, and with so many cine cameras being sold with multiple lens turrets as standard equipment, it is important that the cine amateur know how these additional lenses can broaden the pictorial scope of his photography.

You may have only the regular lens on your camera now, but sooner or later you'll come to appreciate how you could have gotten more professional-like shots of that parade or that automobile race, had you a telephoto to replace your standard lens; or how better indoor shots can be made, say, at Christmas time using a wide angle lens.

With wide angle, normal, and telephoto lenses on your camera, you can change the image size on the screen and get the basic motion picture shots in all your movies—long shot, medium shot, and closeup—without changing camera position. Variety of angle as well as change of image size affords a fresh view of your subject and lends the variety so necessary to pictorial continuity. Where it is not practical to change position of the camera, changing from one focal length lens to another will alter the image size and thereby lend improvement over a continuing shot from the same angle.

So that the difference in image size between lenses of various focal length be more readily understood, the field area of three 16mm. camera lenses most commonly used is shown in the following table. Areas are calculated at distance of fifteen feet.

16MM. LENSES

15mm. Wide Angle		25mm. "Standard" Lens		62mm. Telephoto Lens	
Width	Height	Width	Height	Width	Height
9′ 2″	6′ 10″	5′ 8″	4′ 3″	2′ 3″	1′ 8¼″

(Field areas are slightly smaller for the equivalent in 8mm. lenses.)

The three lenses indicated in the table are those which most readily fit the average 16mm. lens turret without the need of removing the telephoto lens whenever the wide angle lens is to be used. This is often the case, however, and for this reason care must be exercised when purchasing additional lenses to make sure that the telephoto lens easily clears the field of view of the wide angle lens at all times. Where lenses of longer focal length are used, such as a 6-inch telephoto, they must invariably be removed when either the regular or wide angle lens is to be used. In some instances, the telephoto lens can be made to clear by merely focusing it at infinity which reduces its overall physical length.

As indicated in the above chart, the wide angle lens takes in more picture, both vertically and horizontally, than does

(Continued on Page 67)



Sound Kodascope Projector is supplied in two models—FS-10-N (pictured above) and FB-40 (below). The FS-10-N, with an amplifier output of 10 watts, is for use in homes, clubrooms, small-sized auditoriums. The 40-watt output of the FB-40, readily reined in for these uses, is especially suitable for showings before audiences of thousands.

The features detailed below—integral with both models—are those that help to make the Sound Kodascope Projector top choice of those who demand the finest in sound projection for showings before small groups or large.

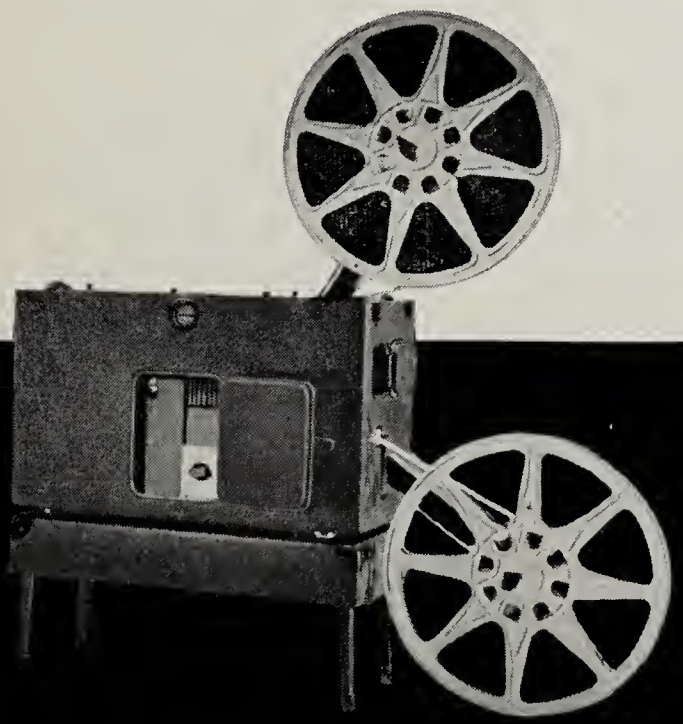
Fidelity Control—A flick of your finger focuses the scanning beam, "picks out" the sound track with hairbreadth accuracy, whatever its position or whatever the type of 16mm. sound film used—original, "dupe," or reduction from 35mm. Operated at high- or low-volume levels . . . straight sound projection, or mixed with music or commentary . . . the tonal output is always crisp, always distinct.

Superb optical system—A precision-made *f*/1.6 *Lumenized* lens teams with a powerful 750-watt lamp to provide sharp and brilliant images under average projection conditions. And a choice of several fast accessory lenses, ranging from 1 inch to 4 inches, makes possible a wide variety of screen sizes and projection "throws."

Easy showings—Everything but film and the screen is "suitcase-handy." Controls are centrally located . . . easy to operate. Wide-opening film gate and positive latches simplify threading. 2000-foot reel capacity makes possible sound showings almost an hour long without a reel change . . . silent showings even longer.

See them demonstrated—at your Kodak dealer's. Prices: FS-10-N Projector, with single speaker, $500; with twin speakers, $565. FB-40 Projector, with twin speakers, $855 . . . Eastman Kodak Company, Rochester 4, N. Y.

Prices subject to change without notice.



Sound Kodascope Projectors FS-10-N / FB-40

"KODAK" IS A TRADE-MARK

SOUND KODASCOPE FB-40 PROJECTOR The amplifier delivers 40 watts of undistorted output . . . twin 12-inch speakers are provided to handle this tremendous power adequately. Because, as with all sound projection, reproduction is best when amplifier and speakers are driven at less than full capacity, FB-40's vast potential power—invaluable when the projector is operated before large audiences at high-volume levels—is highly important, too, when the FB-40 is used in smaller auditoriums for smaller groups.

Kodak

Exposure For Titles And Ultra-closeups

Norwood meter designer tells how incident light measurement insures better title and closeup exposure.

BY CAPTAIN DON NORWOOD

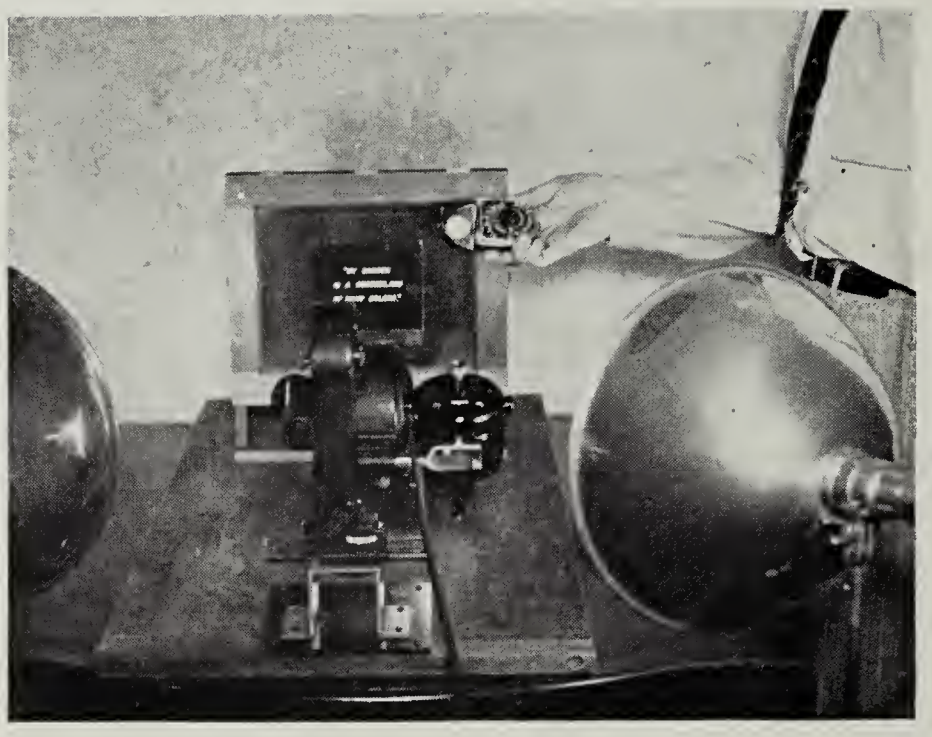


FIG. 1—The title board area is explored by meter to determine uniformity of illumination so essential to good tilting.

ATTRACTIVE titles and sub-titles invariably add a great deal to home movie films. They are not particularly difficult to make. However it is well to be aware of a few special points that are involved in lighting and exposure control.

It has been my experience that exposure control for this type of work is accomplished very easily with an incident light type of exposure meter such as the Norwood Director.

When this meter is used for exposure control for titles there is no need to bother with a white card and a special film rating, as has been advocated in some quarters. Instead, the normal film speed number is used. The meter is held at the center of the title board, and the meter reading noted. From this reading the normal exposure is determined. It is a simple and straightforward proceeding.

One point that is important in the making of attractive titles is the matter of uniform illumination on the title board. If the illumination is not uniform over the entire area of the board, the resulting title will appear to have unwanted light and dark areas.

It is advisable to check the illumination throughout the area of the board. This may be accomplished by moving the meter around to different positions across the face of the title board. The lights should then be so adjusted that the meter reading will remain constant while it is being moved around to the different positions. If the reading does not remain at the same level, then re-adjustment of the lights and reflectors is indicated until the desired uniformity is achieved.

In Fig. 1 may be seen an arrangement in which the title board is illuminated by two photoflood lamps in standard reflectors. The Norwood Director is hand held against the title board, with the hemisphere light-collector pointed toward the camera lens. Careful adjustment of the lights may be made as described earlier in order to secure perfectly uniform illumination across the title board. The indicated exposure setting is then used on the camera lens.

It is well to adjust the location and angle of the light units so that no specular reflections from the lights or reflectors will reach the camera lens. This can be checked through the finder, and also by putting the head close to one side of the camera and then the other side and noting the limits of the specular reflections from the lights.



FIG. 2—Illumination for closeup table-top photography is easily controlled with the aid of the incident light meter used as shown.

Table-top photography is another field where close control of exposure is desirable. In this field, also, it is well to check the uniformity of illumination throughout the area quite carefully. This may be accomplished by exploring the area with a Norwood Director meter. See Fig. 2. The meter's hemispherical light-collector should always be pointed at the camera lens. The body of the meter may be swiveled so as to permit easy reading of the scale at all times.

Exposures will be those directly indicated by the meter, as long as the distance between subject and camera lens is at least 8 times the focal length of the lens.

In any kind of closeup photography the lens transmission may be affected by the focusing adjustment. Camera lenses are so constructed and calibrated that the indicated f-stop transmission is realized only when the lens focusing scale is set at infinity. As the focusing adjustment is changed to take care of nearby objects the relative transmission changes. In the case of still cameras, which have lenses with relatively long focal lengths, this effect may assume proportions of serious magnitude. In the case of cine cameras the lens focal length is usually so short that the above named effect may usually be ignored. In general, if the distance from subject to camera is over eight

times the lens focal length, the effect is inconsequential.

Many 16mm. cameras use a 1 inch lens as the standard. From the above it may be noted that if the distance from title board to camera is eight inches or more, the straight exposure as indicated by the incident light meter is quite appropriate.

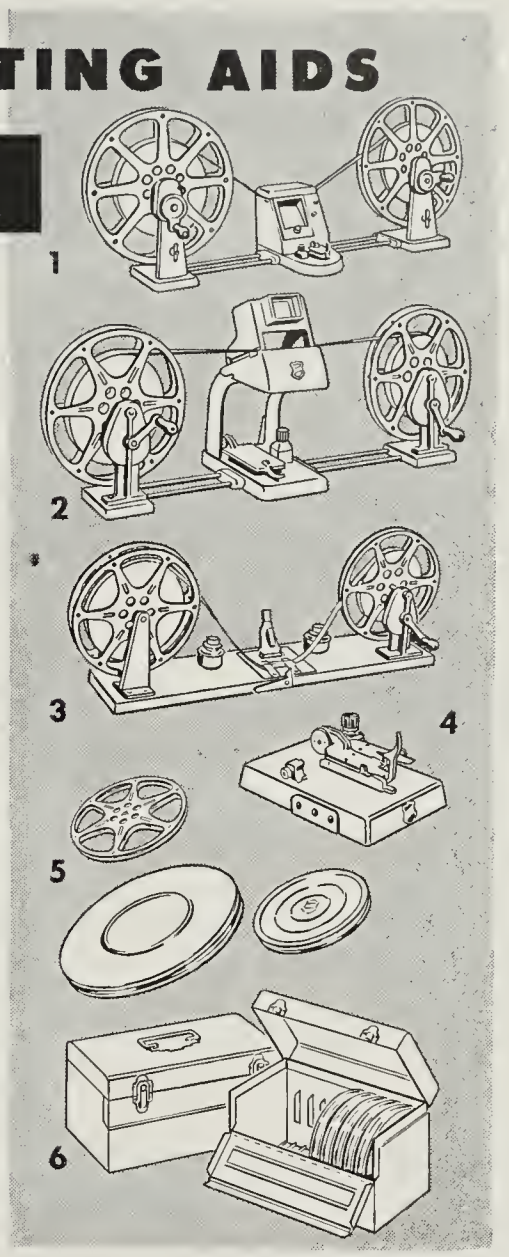
In the case of either title making or table-top photography, should the subject be closer to the camera lens than a distance equal to eight times the focal length of the lens, special provision must be made to take care of the decreased transmission characteristics of the lens. Mathematical formulas may be used for the purpose. However, it is usually easier to make use of one of the special computers commercially made up for such purposes. These may be acquired at almost any well stocked photo supply house.

The computer described above does not, by itself, do the entire job of determining exposure. It is a modifier only. The normal exposure is first determined by the use of the meter in the usual manner, then in the case of the ultra-close subjects, the normal reading is modified by use of the computer.

However, as mentioned previously, the cine camera operator rarely encounters conditions where the subject is closer to the camera than the critical "8 times" distance. In all other, more normal, work

16mm FILM EDITING AIDS

BY BELL & HOWELL



1. B&H Filmotion Editor. Complete, convenient, speedy. Includes Viewer which shows actual movies on miniature screen, Model 136 Splicer, Heavy-duty Rewinds. $151.00

2. B&H Film Editor. Winds film either way through Direct Viewer. Viewer enlarges stationary film frames for easy location of cutting points. Model 136 Splicer is included. 400′ . . . $72.00. 2000′ . . . $80.00

3. B&H Rewind-Splicer Model 72-M. Economical unit consisting of Model 72-L Splicer on a wood base with one geared rewind and one plain reel spindle. Handles both 16mm and 8mm film. $15.50

4. B&H Splicer Model 136. Makes the exclusive B&H *diagonal* splice, strong and pliable, on 16mm silent, 16mm sound, and 8mm film. Base is machined for easy attachment of rewinds. $21.50

5. B&H Reels & Cans. Capacity, 400′ to 2000′. Reels are of rustproofed spring steel; have "touch-threading" hubs. Cans are easy to open without tools.

6. Film Storage Case. Provides protective storage and convenient carrying of twelve 400′ 16mm films. Sturdy, metal container with sectional dividers and drop front. $5.00

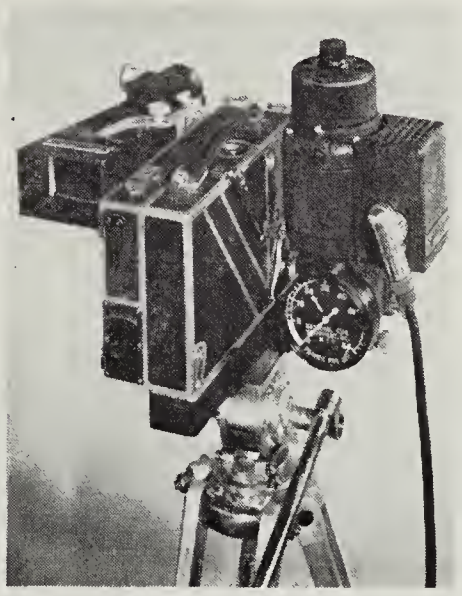
At better photo shops now—these and other B&H accessories. Or write for details. Bell & Howell Company, 7148 McCormick Road, Chicago 45.

Variable Speed Motor with Tachometer

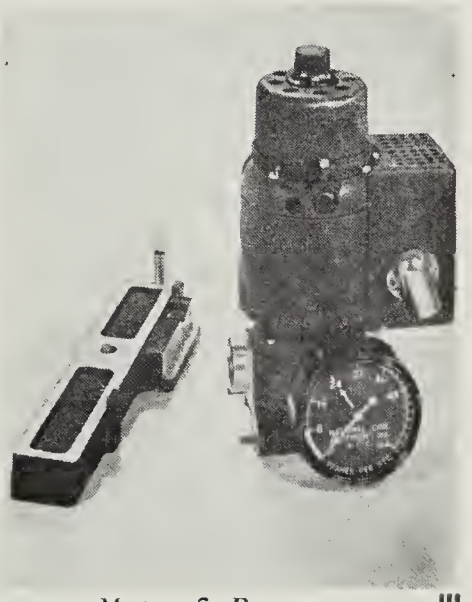
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- Separate Base



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Motor & Base

Interchangeable Motors to Fit Base:

12 Volt DC Variable Speed 8-50 Frames.

115 Volt AC 60 Cycle, Synchronous Motor, Single Phase.

220 Volt AC 60 Cycle, 3 Phase, Synchronous Motor.

All Motor Units Designed to Fit Maurer 16mm. Camera With Special Adapter

ANIMATION MOTORS FOR CINE SPECIAL AND MAURER CAMERAS

National Cine Equipment, Inc. 20 WEST 22nd ST., NEW YORK 10

Cine Kinks for Movie Amateurs

AUXILIARY LENSES, used on your camera for ultra-closeup photography, may also be employed before your projector lens to afford wide angle projection. A 3½ diopter auxiliary, for example, centered at a distance of 3″ in front of projector lens, will give an image 3 by 4 feet at a distance of 8 feet.

•

CLEAN YOUR PLASTIC title letters with soft cotton moistened in ordinary rubbing alcohol.

•

PROJECTION SCREENS, which have lost glass beads in patches may be repaired by spraying clear lacquer over beadless area with ordinary fly-spray gun, then sprinkling glass beads over area and allowing to dry. Beads may be purchased in bulk from most artist's supply stores.

•

TO DEFLECT LIGHT GLARE issuing from top of projector, fold a piece of tin so it may be clamped to top of lamphouse, leaving two sides free for flow of heat. Where projector has round lamphouse, use a tin can of proper diameter and cut openings on two sides for escape of heat.

•

A 6 FT. FLEXIBLE steel tape, such as obtainable at dime stores, makes an excellent unipod support for movie cameras. Solder a ¼ x 20 tripod screw ⅜″ in length to edge of tape case, opposite opening. To use, attach to camera, pull out tape full length, holding lead end under foot. Keeping tape taut will aid in holding camera steady.

•

AN EVERREADY MOVIE SCREEN can be provided for your living room by mounting a panel, cut from a large white desk blotter, on the back of a large framed picture. When not in use, the blotter side remains against the wall with the picture hanging normally. For movies, simply turn the picture to bring screen into position for use.

•

IF YOU USE ALPHABET SOUP letters for movie titles tint them first for color movies, using ordinary water colors or Tintex dyes. Apply color with brush and dry quickly.

•

IF YOUR TRIPOD SLIPS on wet or slick floors, place small rubber crutch-tips over tips of tripod legs. Tips are obtainable at most five and ten cent stores.

the direct reading from the incident light exposure meter may be used with complete confidence that perfectly exposed pictures will be achieved.

Double exposed titles are sometimes very attractive. These can be made when one has facilities for backing up the film in the camera. The usual objective is to achieve a title having white letters superimposed on either a still picture scene or a moving picture scene.

A title like this may be made by first shooting the desired background scene. The exposure for this scene should be carefully determined by the Norwood Director meter. The lens aperture should be made smaller by about ¼ to ½ f-stop less than normal indicated exposure.

Film footages should be carefully noted for the length of the scene. After the background scene has been shot the film may be backed up for the length of the scene, while a lens cap covers the lens. The camera may then be mounted on the title board apparatus, and an appropriate title placed on the title board. The title should preferably be of white letters mounted on the blackest background available. The exposure should again be under control of the meter. This time the full indicated exposure will be appropriate. Since the same meter has been used for both exposure determinations, and the meter directly measured the incident light in each case, the two exposures will be perfectly balanced.

The final effect will be brilliant lettering against a slightly darkened background. The result is particularly pleasing with natural color films.

MERCURY CADMIUM LAMPS

(Continued from Page 47)

The lamps show a slight variation, one lamp from another, which is what we expect, because they do involve certain slight differences in design which we know of. The lamp required to give an accurate color match demands the use of a very pale pink filter before it, or before the camera lens, to render the desired color results. As a matter of fact, this pink filter slightly overcorrected the red in the spectrum. This leads me to believe that it is only a matter of adjustment of the cadmium and mercury ratio in the lamp, and that we can bring the light into line without the need of any filters whatever. The match is so close, and the filters so slight, you might say, in their filtering characteristics.

"With the information that we have obtained from Technicolor and from the tests, and with the knowledge we have of the filtering characteristics, we now have the necessary facts that will enable us to work on the color of the light and get that finally into line.

"There are several other things which were originally outlined and which still constitute real problems, but are further along in their solution. The two things that have always been brought up in connection with this type of lamp are what we call the immediate availability of light, and the ability to immediately re-start the lamp.

"It is characteristic of any mercury lamp—those that we call electrical discharge or mercury arc lamps—that they emit light when the mercury vapor is up in pressure. They are very difficult to start when the mercury vapor is up to pressure. (These lamps are said to be "up to pressure" when the lamp has been lit for a period of time and reached its peak in color temperature and maximum brilliance. Once the lamp is extinguished, the mercury vapor pressure remains "up" for an indefinite interval.—Editor) Thus the lamps are very difficult to re-start when the mercury vapor is up to pressure. The usual characteristics of a mercury lamp, such as perhaps many of you have seen in industrial lighting, is that the lamp is started of itself just by closing a switch, and then a matter of four of five minutes are necessary for the light to come up to full value. But if the light goes out, that is if the power is shut off for a moment, the lamp, of course, goes out and it will not immediately relight should the current be switched on again.

"If we are going to make a lamp, or a lamp and its equipment, for studio lighting, those two problems constitute very important elements in the design of any equipment or of the lamp and its equipment.

"When working on the studio set, the lamps can be turned on perhaps a few minutes in advance—ten minutes or perhaps even 15 minutes—for a safety factor before shooting is to begin. In other words, the electricians could come onto the set, turn on the lamps and let them warm up.

"Our work so far has shown that we can actually conserve the heat in the lamp by some form of enclosure and operate the lamp at very low wattage (between takes) to just keep it up to temperature. In other words, start the lamp and when the light is required, turn it up to full brilliance. Then when the lights are no longer required, we can simply turn a greater part of the power off. A 5,000 or 6,000 watt lamp, say, might be operated at 1,000 or 2,000 watts at the start, with the light intensity dropping to a point where it is of no photographic value; but the lamps would thus be kept warm by some form of an enclosure or perhaps by some type of auxiliary heaters. We see our way clear on that. There is

nothing impossible—nothing that cannot be solved by suitable mechanical design.

"We believe we already have a workable answer to the immediate re-start problem. As I mentioned earlier, when the lamp is up to full operating pressure, it is difficult to start or light again. We find that by employing high voltage impulses, the lamp can be re-ignited and it will start right off at full power. There are a number of methods whereby we can attach or include impulse equipment in the lamp design. I will shortly explain about the equipment we have on demonstration here tonight.

"Another problem that is of considerable interest and on which I have been able to get considerable assistance here, is the type of lens required for mercury cadmium lighting equipment. The type of lens that is commonly used in both the arc lighting and incandescent lighting equipment of Hollywood studios is not the best for this type of light source. The mercury cadmium lamp has a very concentrated light source, enclosed within a four inch quartz bulb. It is characteristic of the "Inky" Fresnel lens that it is of short focus but designed for a rather comparatively large light source—inch and a quarter or an inch and a half square. The Fresnel lens used in arc equipment

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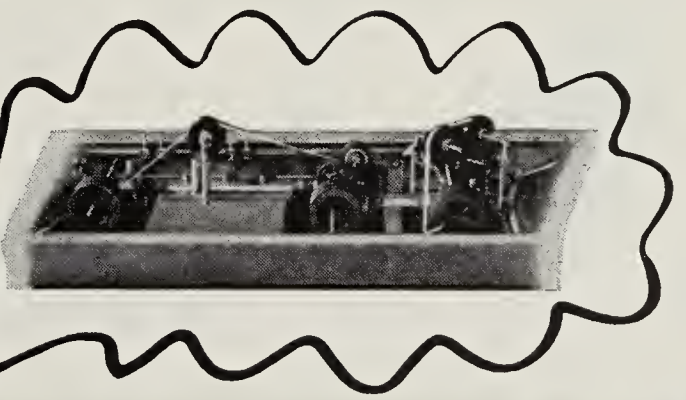
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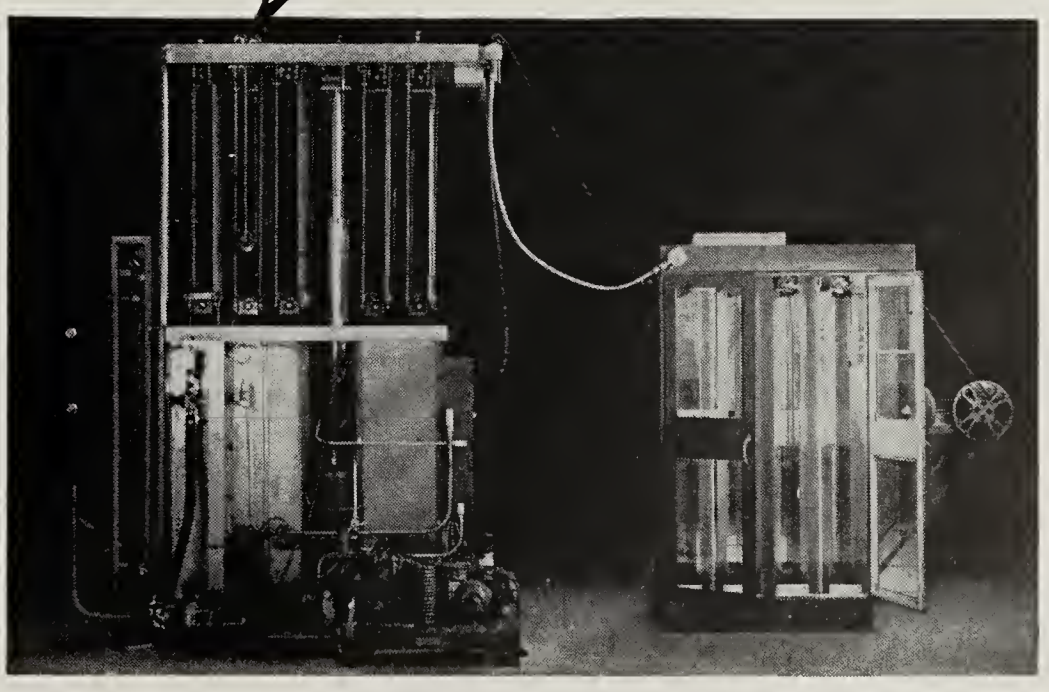
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is of long focus, made necessary by keeping the tail of the arc away from the lens. In designing this type of lens for the mercury cadmium lamp, we have no tail flame to contend with. Thus we can design a condenser or Fresnel lens so that the source can be placed close to it, and at the same time design it for the smaller light surface of this type lamp. That is a problem on which we have been receiving very close cooperation from the equipment manufacturers.

"As for the lamp itself, perhaps a few additional facts will be interesting: the lamps with which we are presently working rate between 5,000 and 7,000 watts. We don't consider the actual wattage nor the current requirements especially important at this time. We are playing with a lamp, as I say, of this rating and it is best to confine our work to a particular type and get the bugs worked out of it. Then if more power is desired, we can go on up, and if you want the lamps smaller, we can make them that way, too.

"The lamp operates in connection with a ballast. The lamp itself is rated at about 70-175 volts, and around 70 amperes. So you see we have something like 5,500 to 6,600 watts and the lamp obviously can operate on the standard 115 volt circuits available in all studios. The lamp type we have here tonight is a direct current lamp. Mercury cadmium lamps can be made for AC also simply by altering the electrode design.

"The lamp operates in a horizontal position. The two electrodes enter the bulb at the sides, and the lamp is so designed it readily may be adapted to equipment that can be tilted up or down. The lamp stays in substantially the same position (located, as it is, in the axis of the lamp house).

The equipment we have here tonight was put together primarily for the Technicolor tests and we are not at this time ready to make any formal announcement of its availability. But it did the job very nicely, although it does not include the quick re-start mechanism, as we didn't need it for the tests."

FILMS IN TELEVISION

(Continued from Page 50)

ditions. I could well have added that with the present floor space limitations from which Television suffers, film in general, and the feature picture in particular, has considerable value to the program planners, who are frequently faced with the task of providing screen time when both our studios are tied up with major-production rehearsals and when, simultaneously, there is no relief available from the outside-broadcast units because they are too involved in setting-up for the next O.B.s. This use of the feature picture will of course be of less import as more television floor space is built and the number of outside-broadcast units is increased. But the feature picture will nevertheless have a permanent value as a complete "potted" television program provided always that it is not, as so many of them are, written and produced specifically for mass audience reaction.

Almost all studio cinematographers must, in their time, have seen completed pictures in their studio review theatres and later seen them projected in a crowded cinema. And they will agree with me that in nearly all cases the film acquired a new meaning in the cinema thanks to the presence of the audience. Those pictures if televised and viewed by a mere handful of people in a home will be judged coldly, as they were in the review theatre. In other words, comparatively few motion pictures designed for the cinema make *ideal* television viewing, although of course their technical perfection can rarely be matched by live television; it would be unthinkable to consider taking a given story and attempting to give it the same treatment in the television studio as it would be given in Elstree or Hollywood.

Apart, however, from the lack of audience reaction in the television home, there is little doubt that on account of the small screen of the cheaper television receiver as compared with that of the cinema, closeups must play a much larger part in television than they do in the commercial motion picture. There is a definite prescription to be followed in writing and shooting the ideal television film and, not unnaturally, the script-writers and directors of commercial films do not follow it. I am not trying to say that the average commercial feature picture is not acceptable fare when televised; I am merely trying to stress that it is not *ideal* television entertainment, and that if all the motion pictures made for the cinema were made available to us for televising, the number which we would select would be comparatively small. In connection with this there is, however, one more point to be remembered: television broadcasting is an admirable medium for bringing "the classic" into the home—classical paintings, classical sculpture, classical plays, AND classical motion pictures. And on this score we in Television would be very happy to have the pick of the films made for the cinema, so that we could select the occasional one and televise it for what it is, viz. a model of its type,

made not for televising but for the cinema.

Is it economic for a film producer to make films on a considerable scale especially for television broadcasting? I am often asked this question by film producers and I have a stock reply: "No—but it may well be in a few years' time when there will be very many television broadcasting systems throughout the world, and the majority of them will be, to a large extent, relying on film to fill their program schedules." This, I think, ties up with what I said in the first paragraph of this article.

PACKAGED ILLUMINATION

(Continued from Page 49)

generators and big studio lights, but without the tremendous transportation and labor costs the latter would have involved.

There has long been a need for lighter, more compact set lighting units, especially lights that could be safely operated on standard 110 volt power lines without creating troublesome fusing problems. A Color-Tran spotlight kit, comprising three spots and a broad, can be operated at full capacity on any 110 volt line fused for 15 amperes.

What Hunt was aiming for in developing Color-Tran lighting was "packaged illumination" adequate for average location and small set lighting needs—ample illumination without the need of heavy lamp equipment and cumbersome generators to supply the current to light them. The equipment, pictured on page 49, comes in two aluminum carrying cases, each slightly larger than a large-size suitcase. They may be carried easily in the trunk compartment or back seat of an automobile.

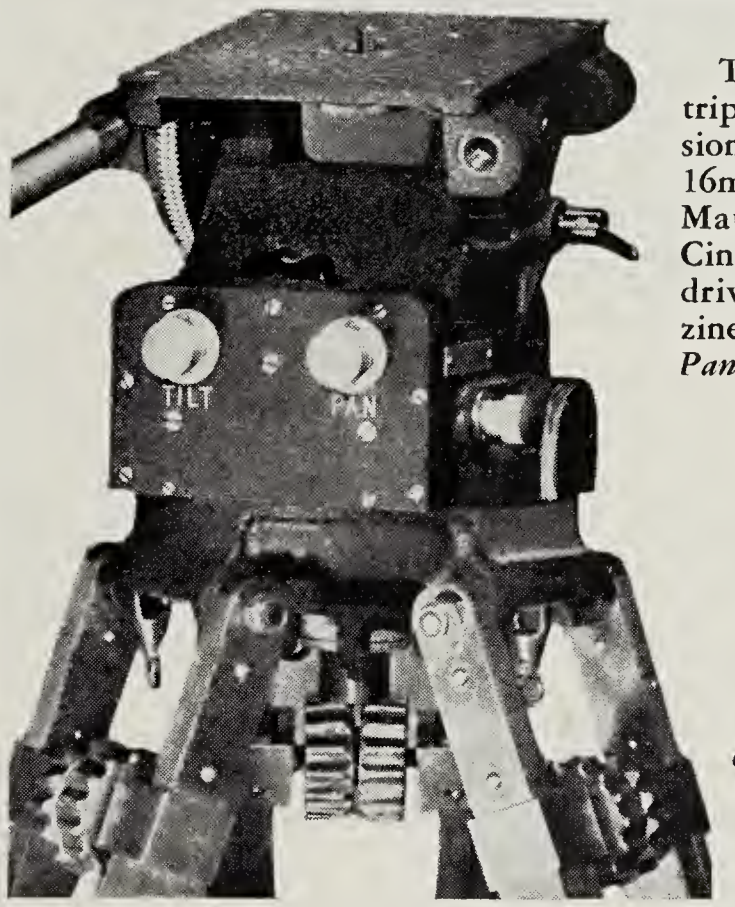
The three spot lights, complete with bulbs, weigh but 10 pounds. Each has built-in barn doors which rotate a full 360 degrees, and there is a slot to accept standard studio diffusion screens. Snoots, in two sizes, complete the accessories. An interesting feature is the way the tri-legged base of the standards automatically collapse when the lamps are lifted to change position—highly desirable when moving lamps in narrow quarters, especially where there's costly furniture that otherwise might be scratched.

There are two types of kits—(1) the Color-Tran spot kit which includes 3 spot lights, 1 broad fill light and the De Luxe Color-Tran in one case, and 4 collapsible stands, 1 pair of snoots and four diffusion screens in the other; and (2) the Color-Tran Grover kit containing 2 Grover lights (see illustration), 2 stands and 1 De Luxe Color-Tran. Necessary bulbs

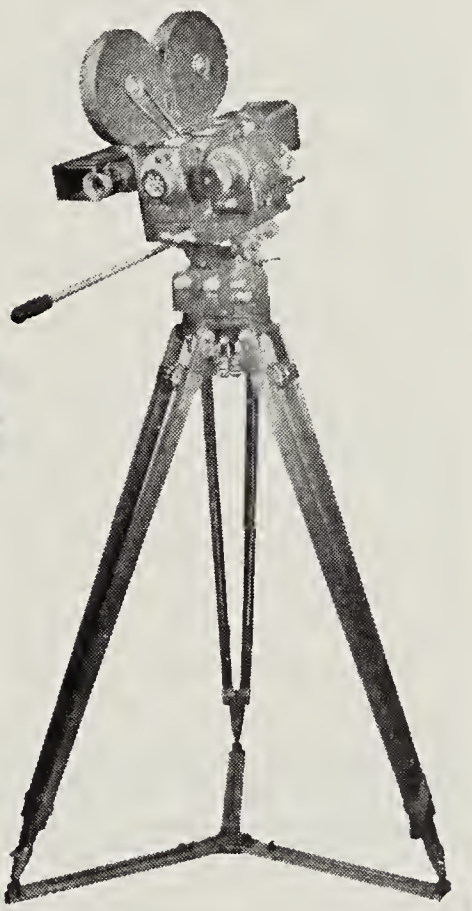
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• JOHN SEITZ was filming Rex Ingram's production, "The Arab," in northern Africa.

• HENRY SHARP was photographing "Against The Rules," a Thomas H. Ince production directed by John Griffith Wray.

• JOHN STUMAR was reading the script and making preparations for filming "How To Educate A Wife," for Warner Brothers, which William Seiter directed.

• E. B. DUPAR was signed by Warner Brothers to photograph "Lover's Lane," and William Beaudine was signed to direct.

• HERFORD TYNES COWLING returned from a photographic asignment in western Tibet and related his experiences in an article in the February, 1924 issue of the *American Cinematographer.*

• CINEMATOGRAPHERS were voicing a strong protest against New York theatre exhibitors, who were reported deleting cinematographer's credit titles from films before exhibiting them.

• A. S. C. announced purchase of its own suite of offices in the then under construction Guaranty Building on Hollywood Boulevard. In those days it was often possible to buy offices outright instead of leasing them.

• MAX DUPONT left for Papeete, Tahiti for a long rest to regain his health.

• JOHN W. BOYLE, in Italy to shoot "Ben Hur" for Goldwyn, found the studios too small and lighting equipment very limited. Newly-made Italian friends had hosted him for Christmas, Boyle reported, stating the Yuletide dinner lasted from 8 P.M. until midnight.

• ROBERT KURRLE and H. LYMAN BROENING were receiving lavish commendation for their camerawork on the Rockett-Lincoln production, "Abraham Lincoln," which was reported taking New York theatregoers by storm.

• NORBERT BRODIN completed the first month of photography on "The Sea Hawk," Frank Lloyd's production for First National. Broden enlisted services of Gil Warrenton, Faxon Dean and H. Lyman Broening to film important scenes at sea for the production.

• ARTHUR EDESON, PHILLIP H. WHITMAN and KENNETH MACLEAN wound up the photography on Douglas Fairbank's "Thief Of Bagdad," which occupied a 32 week filming schedule. (Imagine a schedule like that today!)

are included in the first outfit, not included in the second.

The spotlights give illumination almost twice the intensity of standard 750 watt spots or flood lamps. The Grover is equivalent to a regular 1000 watt broad. The bulbs which furnish this illumination are standard reflector flood or spot lamps such as used for commercial illumination of store windows and displays. For photographic purposes, their normal light output is increased by means of the Color-Tran transformer through which the power supply is fed to the lamps. The Color-Tran is the heart of the outfit—the packaged power unit by which the use of large lamps and equipment and power generators are made obsolete for many set lighting needs.

Ordinary life of the bulbs is 1000 hours. When used in conjunction with the Color-Tran, which kicks up the lamp's brilliance simply by stepping up the voltage, their life is reduced to an average of twenty hours—still ample, though, to meet any photographic problem. Color temperature of these lamps is carefully controlled, and the flick of a switch affords temperature of either 3200° or 3400° as desired.

The following tables give some idea of the light value of Color-Tran illumination as compared with standard set lighting equipment:

Light Distance	Color-Tran Spot* (150 Watt PAR 38 Flood	Commercial 750 watt spot** on flood.
5 Ft.	700 foot candles	280 foot candles
10 "	180 " "	80 " "
15 "	70 " "	26 " "
20 "	43 " "	22 " "
25 "	29 " "	15 " "

*Amps required: 2¾
**Amps required: 6½

Light Distance	Color-Tran Grover* with 3 PAR 38 150-watt floods	Junior Spot** On Flood
5 Ft.	1600 foot candles	
10 "	400 " "	325 foot candles
15 "	180 " "	150 " "
20 "	110 " "	90 " "
25 "	70 " "	59 " "

*Amps required: 8
**Amps required: 16

Light Distance	Color-Tran Grover* with 3 PAR 38 150-watt floods	Junior Spot** On Flood
5 Ft.	950 foot candles	
10 "	500 " "	500 foot candles
15 "	250 " "	250 " "
20 "	190 " "	125 " "
25 "	100 " "	80 " "

*Amps required: 13½
**Amps required: 20

Currently undergoing tests at Color-Tran laboratories is a new light which will provide illumination with an intensity equal that of a 500 watt spot light, but which will draw but 15 amperes of current.

One feature which has made Color-Tran lighting equipment so popular is the comparative ease with which a set may be lit. The lamps may be burned at 110 volts while they are being placed and until such time as it becomes necessary to take a meter reading or actually shoot the picture—a boon to actors, too, who no longer have to stand under brilliant, hot lamps while the camera is being lined up for a shot.

THE SNAKE PIT

(Continued from Page 48)

Like almost everyone else engaged in the production of the picture, Tover was imbued with an almost religious zeal in his appreciation of the picture's importance as a social document as well as a human drama. Along with the director and the principals of the cast, he visited and explored several state mental hospitals before the start of filming, in order that he might absorb the atmosphere and feel of such a place. He observed the inmates, their patterns of motion, and the effect of the light falling upon their contorted faces. In his photography he manages to exactly capture the mood of the type of institution portrayed.

The director of photography's most weighty problem, and one which persisted throughout nine tenths of the picture, was having to work within the narrow confines of the mental hospital rooms, wards and corridors. Rather than remove walls to make room for his crew and equipment as is customary, Tover kept his camera within the logical spacial limitations of the Juniper Hill Sanitarium set, in order that the feeling of confinement might convey itself to the audience and suggest the point of view of those shut within asylum walls. In spite of these limitations, however, there is camera movement synchronized accurately with the action of the players in such a way that the pace of the film moves briskly forward.

Coming, as it does, at the end of a long and not always noteworthy cycle of psychological films, one might expect "The Snake Pit" to be cluttered with camera cliches of the type that have become standard for the representation of mental turmoil on the screen. Unlike earlier portrayals of cinema psychosis, the film relies on no obvious tricks. but conveys the frenzy of its main character in terms of symbolism that is not only

dramatically effective, but technically accurate from the psychiatric standpoint as well.

In one sequence, for example, the main character has a mental relapse following interrogation by an unsympathetic and rather inept psychiatrist. In the swirling confusion that follows, she appears to be clinging perilously to the edge of a cliff, screaming with horror as the ocean churns far below. An invisible force pushes her off the cliff and she is submerged in the furiously swirling water. The scene dissolves back to reality to show her confined in a tub of warm water prescribed to soothe her hysteria. The symbolism is direct and accurate; the camera representation is forcefully symbolic.

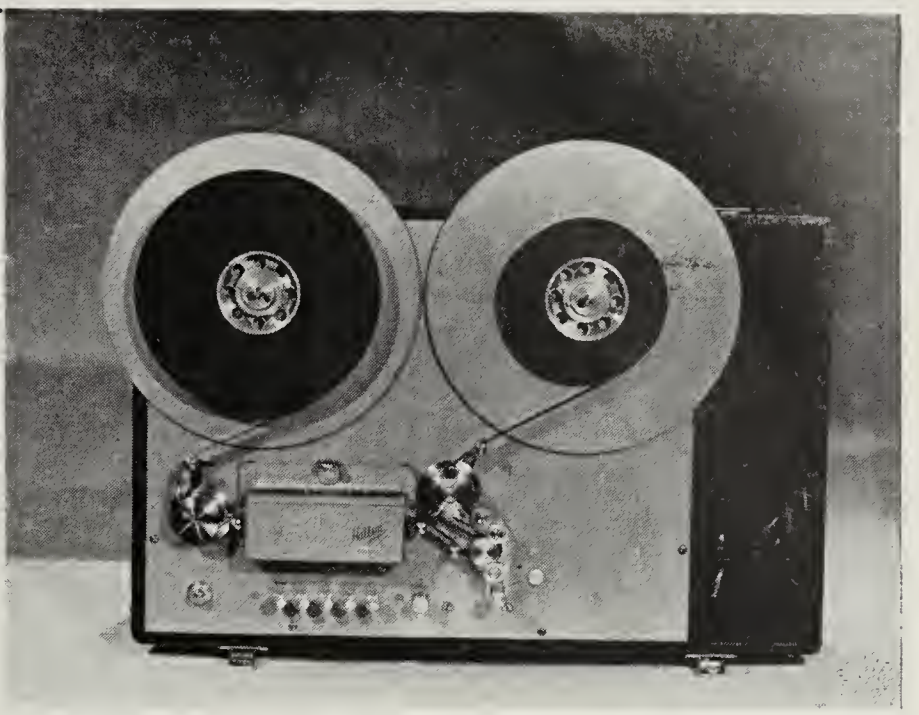
For the picture's star, Miss Olivia de Havilland, the staging of this hydrotherapy nightmare was a physically exhausting ordeal. On the sound stage there was rigged a contraption reminiscent of Rube Goldberg which featured a 50-pound barrel of water that could be tipped to pour down a chute six feet above the star's head, dumping a deluge squarely upon her as she wallowed in an 8 by 10 foot tank. She was drenched with 3,750 pounds of water before a perfect take was achieved, and had to take to her bed for two days to recover from the resultant cold and fever.

One of the most visually impressive sequences in the picture is that which shows the main character in Ward 33, the "lower depths of hell" according to the asylum's descending scale of madness. She is surrounded by writhing, gesticulating, dancing, shouting inmates who rave with unbridled abandon. The camera moves from one to the other—a passionless but incisive observer. Finally it moves in to a close-up of the protagonist as she gropes in the crannies of her mind to search out a simile with which to compare this den of human chaos. She recalls having read of the snake pits into which the insane were thrown in former times, on the theory that what might drive a normal person insane would shock a deranged person back to sanity.

As this recollection filters through her mind, the camera swoops straight up to her standing in the midst of a writhing serpent-like mass of humanity. On up it goes until the edges of the frame become the sides of a deep pit, the snake pit from which the film draws it title.

Executing this effect on the sound stage took a bit of doing. A special camera crane was rigged to sweep camera, operator and director to the very top of the stage; so high, in fact, that they could not stand up without bumping their heads against the ceiling. It was this scene that prompted the New York critics

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to speak of "the beautifully mad ballet" which director Litvak and cinematographer Tover created and photographed between them.

It is worthwhile to note how perfectly the separate scenes of the picture go together. Such a smooth flow from sequence to sequence indicates an unusual rapport between direction, camera and editing. There is a visual continuity that is paced by the staging of the action, carried along by the camera, and realized through careful montage of the separate scenes. From the audience point of view this means that the story moves smoothly and steadily along. There is never a dull moment, never a lag in the unfolding of the narrative. To coin a rather awkward but appropriate pun, one might say that "The Snake Pit" is quite literally a moving picture.

It would be difficult to say what one element gives this fine film its impact. It would, indeed, be impossible to credit such excellence to any single individual or department—for the creation of good cinema is a group endeavor, the unified effort of many people, the blending of many arts and crafts. "The Snake Pit" is a triumphant example of such teamwork.

FILMING "THE MAN ON THE EIFFEL TOWER"

(Continued from Page 47)

American company was magnificent. The French people did everything humanly possible to aid Cortez and his staff during the power shortages.

"I would be remiss," Cortez says, "not to give credit and considerable thanks to those men, from top French officials right down to the technicians on the set, for the tireless energy and assistance they contributed toward solving our lighting, power and production problems. My associate and chief gaffer, Lou Lavelli, assisted by M. Freddie of Joinville and M. Raymon Billancourt, did a noble and commendable job at all times."

Despite the power difficulties at the two French studios, Cortez managed to complete as many as 17 setups on some days; and for shooting color under such conditions as he encountered, conditions that often seemed unsurmountable, this may be considered a real achievement.

Working conditions in the French studios differ from those we know in Hollywood. For instance, Cortez relates, they would begin working at noon each day and continue working right through until 7:30 in the evening, with only a brief rest period, during which members of the cast and crew would partake of a glass of wine and a *jambon* sandwich.

Cortez reports that the French technicians were not only eager and thorough workers, but anxious to learn all they could of American production methods, which they regard as the most advanced in the world. This is quite a compliment when we consider that the French are, themselves, producing some of the best and most profitable motion pictures currently receiving international release.

"My efficient staff," said Cortez, "consisted of Tony Braun, Andre Germain, and Jean Bouvet. There was also Boris Korganoff who was my interpreter. I found it expedient to create an entirely new staff job on this production—that of "general assistant to the director of photography"—and Korganoff was the man who filled it, and admirably, too.

"He had nothing to do with the camera," Cortez continued, "but the all-around assistance he rendered me was of inestimable value. I'd like to sell this idea to Hollywood producers—that is, after the present production slump clears up."

Producers Irving Allen and Franchot Tone, as well as director Burgess Meredith and production manager Ruby Rosenberg were very sympathetic and reassuring in the understanding of the photographic problems Cortez encountered, as well as of the extremely handicapping conditions under which he and his staff were often forced to work. "They were most cooperative and considerate at all times," Cortez said.

"The Man On The Eiffel Tower" was adapted from the book by the same name. It is a mystery story culminating in a dramatic man hunt on the Eiffel Tower in Paris. The cast includes Charles Laughton, Franchot Tone, Burgess Meredith, Patricia Roc, Robert Hutton, Jean Wallace and Belita. Contributing much to the picture's success, Cortez said, was the able counsel and assistance of art director M. Reynaud.

Location filming took Cortez and his company to many of Paris' famed streets and boulevards, to the Eiffel Tower, and to many of Paris' renowned buildings, cafes and parks, all of which provided the colorful background for the picture. This in itself should make the picture unusually interesting to American audiences, inasmuch as it will present in color, probably for the first time, a travelogue type of documentation of Paris and much of France, at the same time offering a gripping mystery drama enacted in the actual French locales.

Perhaps the real challenge for Cortez in this assignment lay in the fact he had to start the picture "cold," that is without shooting tests which would give him a check on lighting and makeup. There were no Ansco laboratories in Europe, at the time. Thus any tests he might make would have entailed a delay the company could ill afford, because tests would have to be sent to an Ansco laboratory in the United States for developing and printing. But through courage, re-

sourcefulness and initiative the challenge was met.

"Thanks to Neal Nunan and Gar Meissner of the Hollywood Ansco Laboratories," Cortez said, "and to the Metro-Goldwyn-Mayer studio laboratory, where all the film was processed, I was delightfully surprised at the results of the first rushes sent to me in Paris."

"You may be sure," he continued, "that I spent many anxious days awaiting their arrival. Having returned to Hollywood, I have since had the pleasure of viewing the rest of the picture and am most enthusiastic about the results. I feel that we have given Ansco Color film the acid test, having put it through a major production under all sorts of conditions. It is safe to predict that Ansco Color film will really come into its own as a medium for feature film production, once 'The Man On The Eiffel Tower' is released."

To Cortez, "The Man On The Eiffel Tower" has ceased to be a thrilling and unusual color film made in France. He has come to look upon it as an important medium by which we in Hollywood will have contributed much toward cementing friendly relationships between the American and French motion picture industries and their technicians.

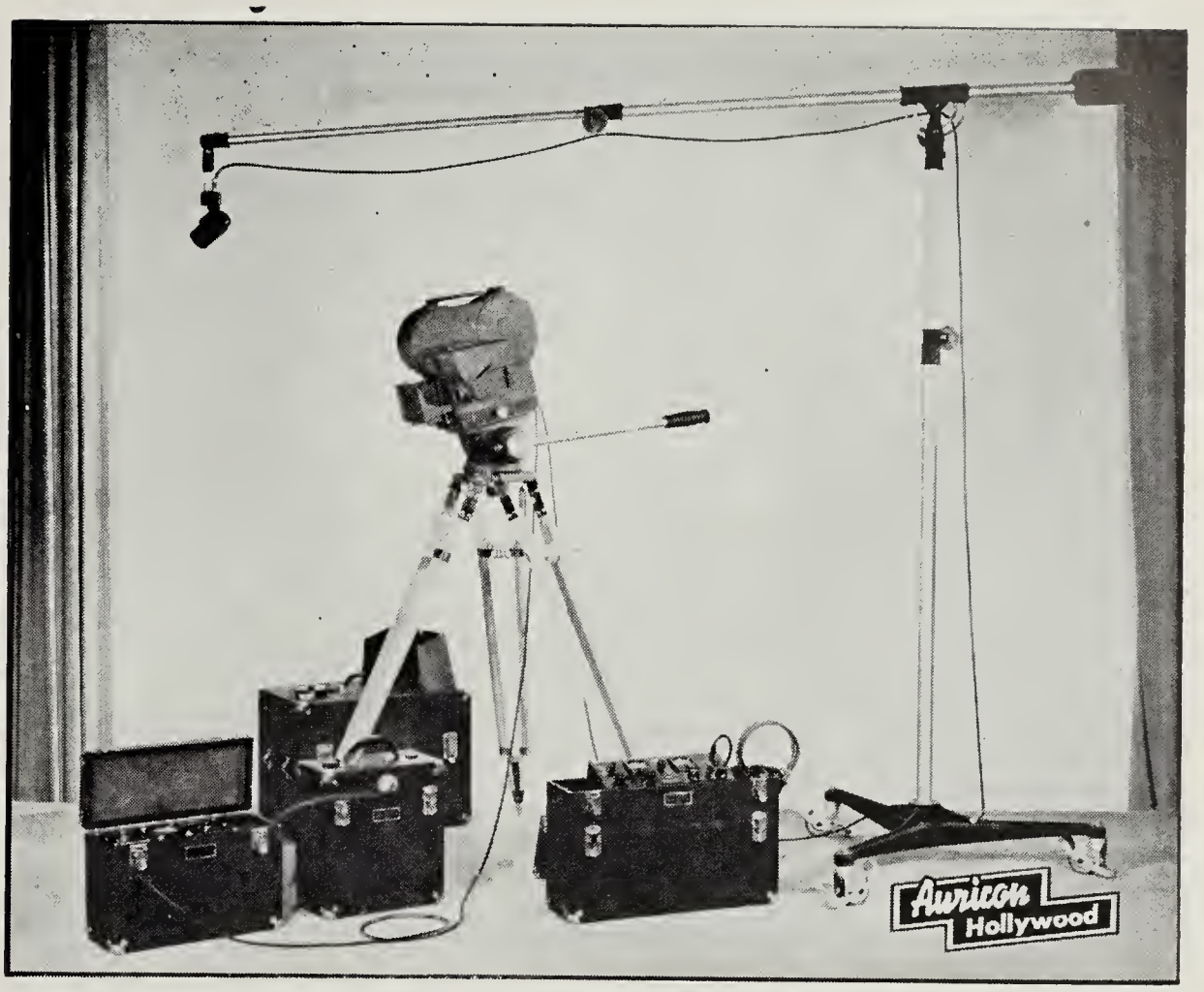
THE CASE FOR THE CAMERAMEN

(Continued from Page 45)

front office, for reasons best known to themselves, will seldom openly criticise a director, but they have no compunctions about calling a cameraman on the carpet, once he's suspected of braking production speed. It is situations such as these that too often develop the production office viewpoint that leads to criticism of the cameraman for conditions beyond his control.

So often we have the situation where the cameraman of twenty or twenty-five years experience is working with a director or producer who has recently come into the business. There is a wide gap between the knowledge of one and the relative inexperience of the other that invariably creates friction where the tendency is not to consider the wisdom of the more experienced man.

It takes many years of hard work and special training to qualify as a director of photography. Even though a man may have become a director of photography only recently, he has first put in many years of training, working up from perhaps a film loader, laboratory technician or still man, to assistant cameraman and then operative cameraman. He qualifies as a director of photography by virtue of this vast, practical experience, first in the



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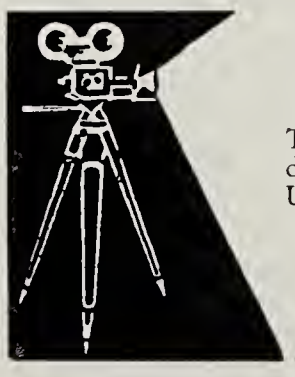
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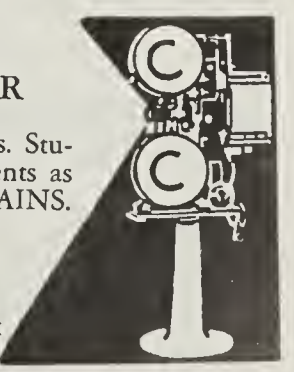
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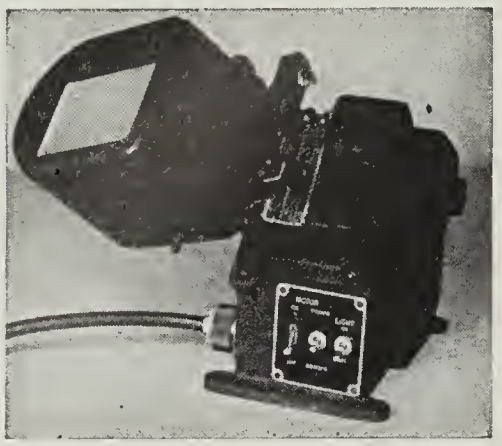
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of The American Cinematographer are available for most months of 1947 and 1948. Many earlier issues also available. All contain valuable technical articles and information relative to contemporary motion picture photography. The December issues contain an annual index as a guide to content of each year's 12 issues. Price of back issues: In U. S., 30c; Foreign, 40c.

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fundamentals of motion picture photography and later in prolonged, actual experience.

Quite naturally he has acquired in this process a broad knowledge of photography that enables him to skillfully light studio sets and to photograph them artfully and with the necessary dramatic impact. The average cameraman will spend from two to five years in each step of the ladder reaching toward the coveted position of director of photography—perhaps as many as twenty years in all before he is handed the photography directorship of a picture. In the light of these facts, a producer or director who neglects to make use of the full potentials of his cameraman is simply indulging in incompetence.

Any discussion of cameramen today invariably brings up the subject of "speed"—the speed at which they work—how fast they can make setups and get the takes in the can. Too often, of course, speed becomes a fetish of those with insufficient knowledge of lighting problems or photography; otherwise they would know that it takes so many lights to illuminate a given set and so many minutes to place and adjust the lights in order to get the expected photographic results, and that breathing down a cameraman's neck is not going to speed up the process.

There are some directors of photography justly regarded as "speed cameramen," but more often than not the reputation has come to them through the happy circumstance of working with a director whose sympathetic understanding of the cameraman's problems has made speed possible. There are instances where a cameraman, working with such a director, has brought a picture in within the scheduled 24 days. On his next assignment, with another director given a similar picture schedule, the picture takes thirty to forty days to shoot and invariably the cameramen is blamed for the delay.

Not all directors, of course, pass the buck to their cameraman. There are many cinematographers who are highly respected by directors who lean heavily upon the cameraman's ability and experience in staging and photographing a successful production. Many directors, as well as stars, will not undertake a picture unless they can have a cinematographer of known ability in charge of the camera.

As in all crafts, there are bound to be a few uncooperative cameramen, and perhaps the records of one or two have contributed to the present critical attitude we find today. Also occasionally we find the unscrupulous one—the fellow of dubious skill who seeks to advance himself by assuming a false front of ability. Hasn't he, too, contributed something toward creating the critical attitude toward cameramen in some studios?

Where a cameraman possesses genuine ability, it will generally be recognized during the course of his work. There are no miracles in the business of filming motion pictures, as most of us know, and the work that such men turn out under the label of economy or any other tag, quite often falls far short in quality of lighting, in cinematic technique and in all those little things that make a picture photographically acceptable on the screen.

There are, of course, some motion pictures particularly suited to genuine economy type of lighting and photography, but they are generally planned that way—pictures such as some of the comparatively recent documentary features. Actually, however, this type of picture is not new, but merely a renaissance of the type of films produced thirty years ago. Rarely is so-called economy lighting and photography adaptable to productions of epic proportions and cast with top ranking stars.

Taking an honest view of the situation, it would seem that much of the production economy producers are looking for will become possible when they seek the counsel of the cameramen, take these men into their confidence when planning pictures and, finally, show genuine respect for their ability, their knowledge and artistry and their years of experience. Cinematography is an art and a science. It cannot be regimented nor placed on an assembly-line basis.

TWO-CAMERA MAN

(Continued from Page 53)

cameras, Porep first constructed a special base for the tripod head from aluminum alloy. This was securely bolted to a "Professional Junior" tripod and the cameras then mounted upon it. Leads from the motor of each camera were channeled into a single switch, affording centralized control of both cameras.

Special 1000 foot magazines were provided the cameras especially for this assignment in order to insure a supply of film sufficient for filming a full half period of action without reloading. Magazines were then changed during the half, insuring a full load of film for the second half of the game.

The lack of sunlight and ever changing light conditions occasioned by the threatening overcast that prevailed that day, caused some concern, Porep says, and it became necessary to take frequent light readings to insure accuracy of exposure for every foot of this important record.

In between grid seasons, Porep concen-

trates on making movies of other sports. He invariably covers all important basketball games in his vicinity and last October he photographed a movie on golf at the Pebble Beach and Cypress Point golf courses. The film was produced by Grantland Rice for Spaldings, sporting goods manufacturers. He also has filmed football movies for television and is currently concentrating on subjects for this field with his camera. But come next January 1st, you'll be sure to find Porep and his camera—or *cameras*, if the assignment demands—up on the Rose Bowl press box filming the 1950 Rose Bowl game.

LENS LORE

(Continued from Page 54)

the so-called standard or normal lens. A telephoto lens, which brings things closer on the screen, takes in less of the scene area; but when this area is projected it assumes the same size on the screen as scenes made with lenses of other focal length. For example, suppose we are twenty feet from our subject and shoot the scene with a 50mm. lens. The image size on the screen will be the same as though we had shot it at a distance of ten feet, using the regular 25mm. lens.

One of the big advantages of using a telephoto lens, of course, is that it enables the movie maker to photograph interesting character studies of people unobtrusively, standing some distance away. Indeed, with a telephoto lens on your camera, distance does lend enchantment in the way of some excellent, unposed movie shots. Every reader knows what happens when people are photographed with a movie camera at close range; they become self-conscious and look at the camera, which often contributes to some very uninteresting footage.

One of the big advantages of the telephoto lens in focusing mount is that it affords means of photographing small objects so they'll appear highly magnified in screen-filling closeups when projected. The Wollensak 75mm. telephoto for 16mm. cameras, for example, will focus down to three feet, taking in an area 4.2″ by 3.1″. The same lens adapted for an 8mm. camera would photograph an area one-half that size.

With most Cine Kodak lenses, it is possible to pull out a little red plunger, thereby increasing the focusing range of the lens beyond the calibrations marked thereon. In such instances, however, one must use a through-the-lens focusing device. The Eastman 63mm. telephoto for 16mm. cameras will photograph at close range an area as small as 1 5/16″ by 15/16″. With the Eastman 38mm. lens for 8mm. cameras, the smallest area that

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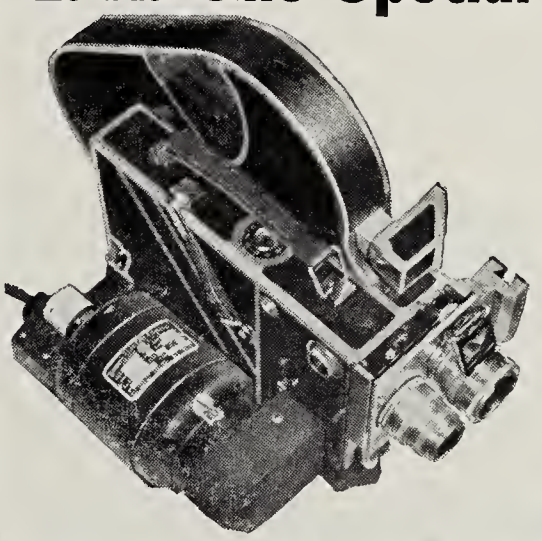
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can be photographed sharply is 1 1/16" by 13/16".

Extreme closeup filming is also afforded by most wide angle lenses. The Bell & Howell Ansix 17mm. wide angle for 16mm. cameras, for example, when focused at three feet, takes in an area 1.8 feet by 1.3 feet. The same lens, however, will focus as close as 10 inches at which point it takes in a field so small as to be almost beyond measurement.

When working with wide angle lenses, the foregound or near part of the subject will be greatly enlarged as compared to the same area covered by a normal lens, and the farther end of the subject will appear very small. With a wide angle lens, backgrounds and foregrounds can be altered to suit your compositional needs. This is also true when a telephoto is used. This is demonstrated in the series of photos on page 54. Fig. 1 is a standard shot made with a normal 25mm. cine lens. Fig. 2 was also made with a 25mm. lens, but with the camera eighteen feet from the man standing at the curb. Note, however, the change in perspective rendered in the third shot which was made with a telephoto lens at a distance for 75 feet from subject. Here subject remains the same size as in Fig. 2, but perspective of the background has been changed considerably.

A unique effect on a flat screen can be gained if closeups are made with a long focal lens. The longer telephoto lenses tend to flatten out a closeup because these lenses have very shallow depth of field at close distances. Thus, in using a telephoto for closeups, the background is thrown out of focus, making the subject stand out more clearly. In color photography, the use of telephotos for this purpose is even more advantageous.

The effect rendered by a wide angle lens is just the opposite. The extreme wide angle tends to distort foreground objects while distant objects seem even farther away than they normally appear to the eye. For this reason, wide angle lenses are often used in making photos for advertising purposes and their use is responsible for the elongated appearance of motor cars in many advertising illustrations.

Another advantage the use of a telephoto lens affords is the ability to virtually re-arrange objects within a scene for compositional improvement. Proof of this may be seen in the change of perspective wrought through use of the telephoto lens in Fig. 3. Note how the background appears closer to the cars and the man standing at curb. This perspective could not be attained by shooting close up with a normal lens.

Limited space precludes elaborating upon the many advantages of owning a full complement of lenses for your cine camera—i. e., besides your normal lens, a wide angle and a telephoto lens. But we hope this brief treatise may result in the reader experimenting with all his lenses in order that he may see for himself the broader compositional opportunities which they afford. As with a new golf club, you cannot know a lens' full possibilities, its scope, nor its limitations either, unless you give it a fair trial—become fully acquainted with it.

BULLETIN BOARD

(Continued from Page 42)

radically new principle. Meter, according to Norwood, gives instant color temperature readings, indoors or out.

●

HOMER VAN PELT, Columbia Pictures' crack photographer, should have been credited last month for the excellent cover photo he made for the January issue of the "American Cinematographer." Through an oversight his name was omitted in the customary place in the picture's descriptive paragraph.

●

LEN ROOS, A.S.C.., made preparations to step up production of his Hallen magnetic sound recorders following announcement that M-G-M, who has been quietly testing magnetic recording for sometime, plans to switch to tape recording for all its pictures in very near future. Roos, whose recorder is designed especially to supplant optical recording for films, expects rest of the studios to follow suit. Some are already testing his equipment, he states.

●

JOSEPH H. McNABB, pioneer in the motion picture industry and president and chairman of the board of the Bell & Howell Company, died January 5th in Chicago after a brief illness.



J. H. McNabb

Mr. McNabb was born April 15, 1887 in St. Thomas, Ontario, Canada. He had business experience in railroading where he served in capacities from telegraph operator to auditor to executive assistant of the Southern Pacific and other lines in mid-west and western United States. He later became general manager of the Bell & Howell Company at the age of 29 and president of that company at the age of 35. He had been associated with the company for over thirty-two years and had directed its growth from an organization fewer than eighty employees to one of the largest in the industry.

He was an associate member of the American Society of Cinematographers.

Mr. McNabb collaborated with George Eastman on the standardization of the present 16mm. film specifications. He developed and produced the first 16mm. amateur spring-driven camera. He was also an inventor in his own right, having patents on film splicers and other devices for professional and amateur motion picture equipment.

In 1946 he entered into an agreement with the J. Arthur Rank Organization to manufacture and sell Bell & Howell equipment in Europe and the Empire.

●

RECENT PHOTOGRAPHY RAVE-IEWS: *John Loves Mary*—"A splendid photographic job by Peverell Marley." *Life Of Riley*—"William Daniels performs a competent camera job." *Trouble Preferred*—"Benjamin Kline contributes a craftsmanlike photographic job." *Boston Blackie's Chinese Venture*—"Vincent Farrar's photography captures all essentials artfully." *Criss Cross*—"Frank Planer's photography, centered around downtown Los Angeles, catches the full flavor of that interesting sector." *Alias Nick Beal*—"Lionel Lindon's photography with its whirling fog and grey mist is a decided advantage." *Flaxy Martin*—"Carl Guthrie's photography is appropriately low key . . . captures the flavor of the melodrama."



CURRENT ASSIGNMENTS OF A.S.C. MEMBERS

(Continued from Page 40)

with William Holden, Joan Caulfield and Billy de Wolfe. Richard Haydn, director.
•DANIEL FAPP, "Red Hot and Blue," with Betty Hutton and Victor Mature. John Farrow, director.

R-K-O

•HARRY WILD, "The Big Steal," with Robert Mitchum and William Bendix. Don Seigel, director.

20th Century-Fox

•LEON SHAMROY, "Prince Of Foxes," (Shooting in Italy) with Tyrone Power, Orson Welles and Wanda Hendrix.
•RUSSELL HARLAN, "I Was a Male War Bride," (Shooting in Germany) with Cary Grant and Ann Sheridan. Howard Hawks, director.
•ARTHUR ARLING, "You're My Everything," (Technicolor) with Anne Baxter, Dan Daley and Anne Revere. Walter Lang, director.
•CHARLES CLARKE, "Slattery's Hurricane," with Linda Darnell, Veronica Lake and Richard Widmark. Andre De-Toth, director.
•JOSEPH LASHELLE, "Come to the Stable," with Loretta Young, Celeste Holm and Elsa Lanchester. Henry Koster, director.
•JOSEPH MACDONALD, "It Happens Every Spring," with Ray Milland and Jean Peters. Lloyd Bacon, director.
•MILTON KRASNER, "East Side Story," with Richard Conte, Susan Hayward and Edward G. Robinson. Joseph Mankiewicz, director.
•ERNEST PALMER, "Oh, You Beautiful Doll," with Mark Stevens, June Haver, and Gale Robbins. John Stahl, director.

United Artists

•LIONEL LINDEN, "Twilight," (Strand Prodn.) with Laraine Day, Dane Clark, Franchot Tone, Agnes Moorehead and Bruce Bennett. Irving Pichel, director.

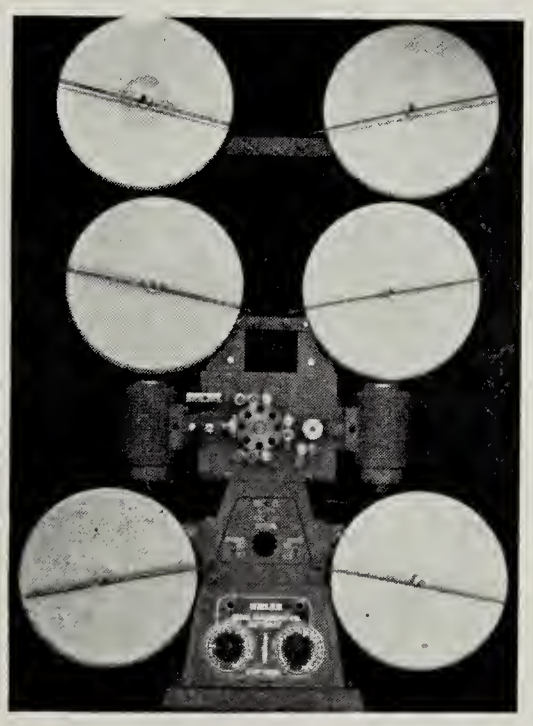
Universal-International

•RUSSELL METTY, "The Lady Gambles," with Barbara Stanwyck and Robert Preston. Michael Gordon, director.
•WILLIAM DANIELS, "Illegal Entry," with Howard Duff, Marta Toren and George Brent. Frederick deCordova, director.
•FRANK PLANER, "Take One False Step," with William Powell, Shelly Winters and Marsha Hunt. Chester Erskine, director.

Warner Bros.

•ROBERT BURKS and WILFRID CLINE, "Task Force," with Gary Cooper, Wayne Morris and Julie Brennan. Delmar Daves, director.

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Mitchell Camera Company Glendale, Calif., announces a new compact and scientifically sound-insulated blimp for the Mitchell 16mm. Professional camera. Constructed entirely of cast aluminum, it features the same kind of precision workmanship that goes into Mitchell cameras. Blimps afford shooting extreme close-ups without danger of recording camera noise, and permits smooth operation for follow-focus photography.



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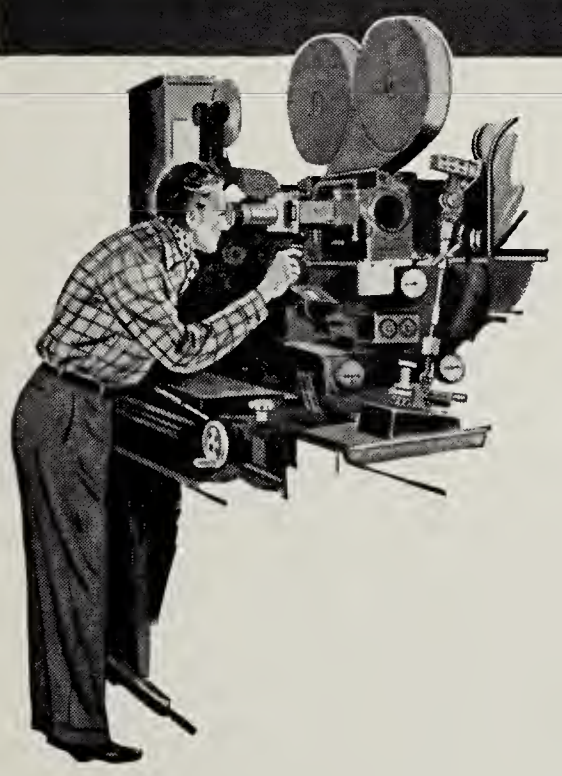
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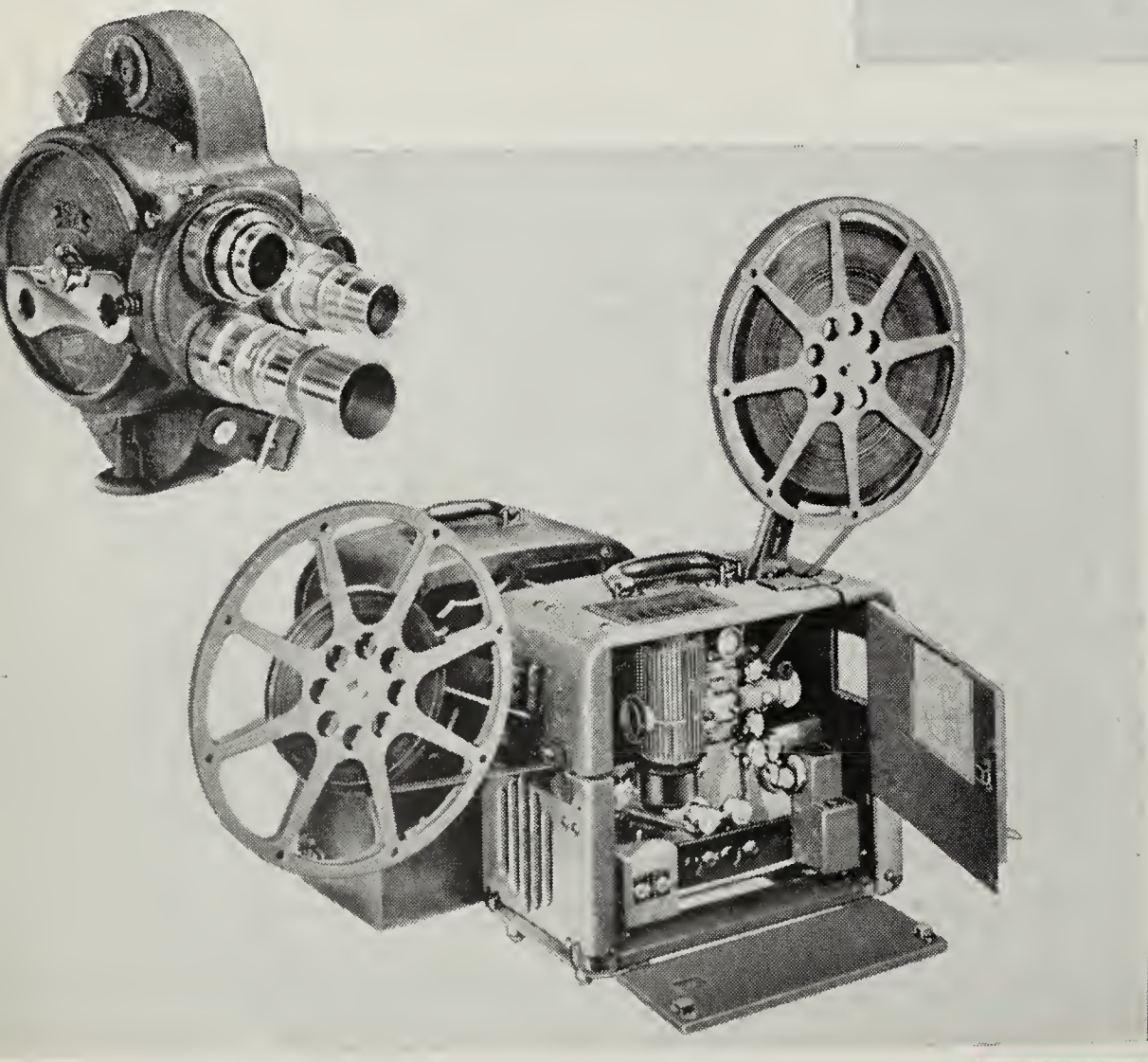
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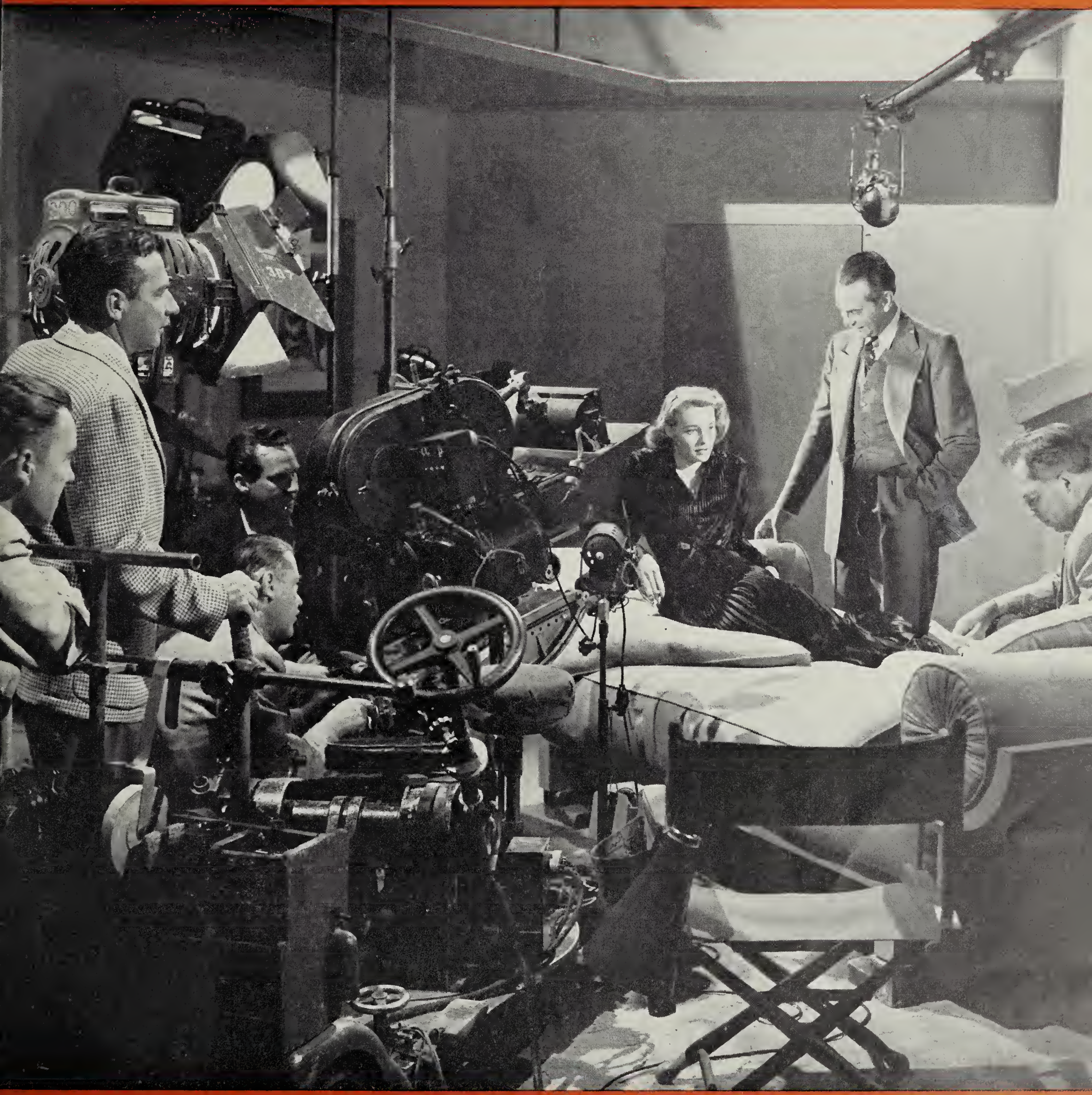
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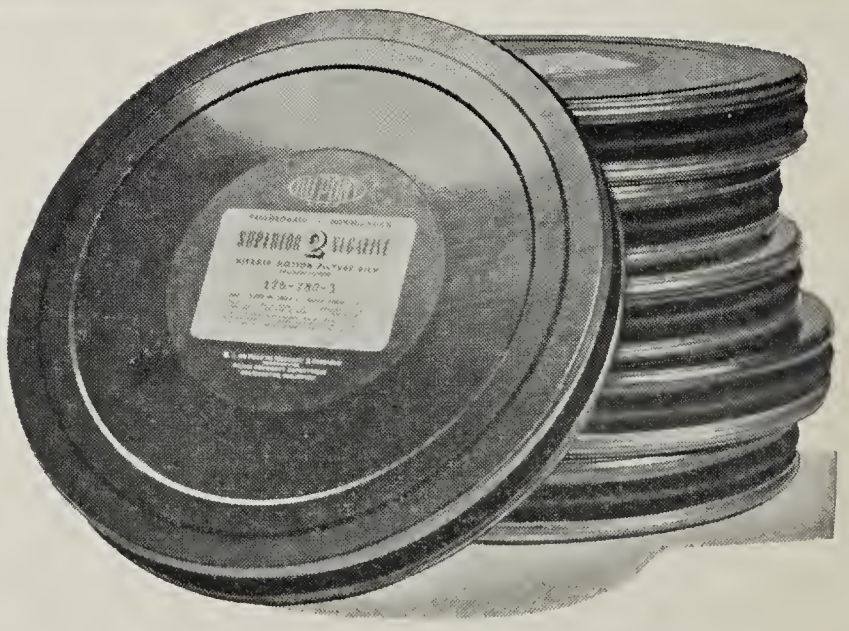
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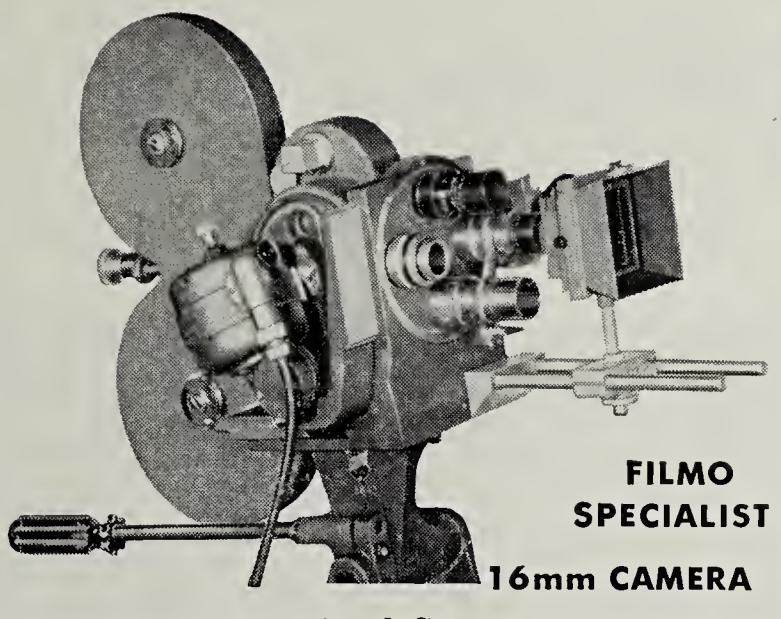
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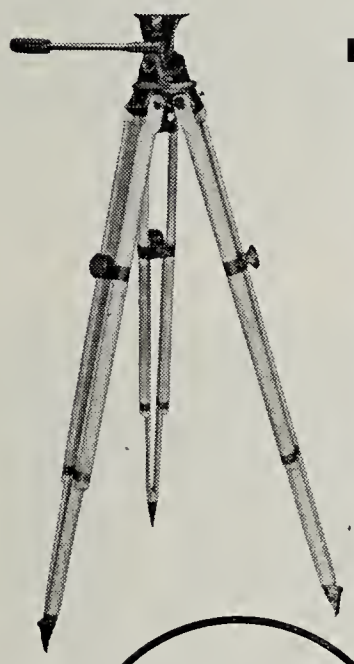
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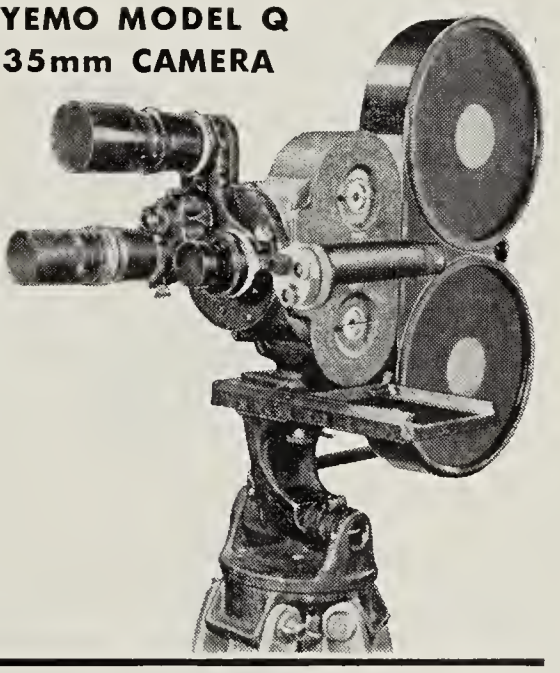
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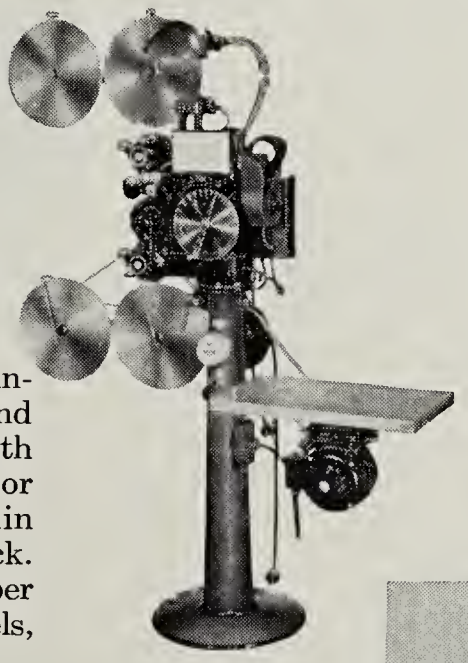
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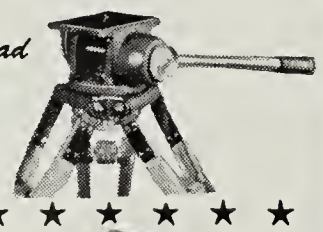
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Hollywood Bulletin Board



PETER MOLE, A.S.C., in recognition of his contributions in development of studio lighting equipment, was tendered certificate of appreciation by Charles G. Clarke, A.S.C., in behalf of members of American Society of Cinematographers. Occasion was Society's recent 30th Anniversary celebration.

CELEBRATING THIRTIETH Anniversary of founding of the Society of American Cinematographers, members of the A. S. C. gathered at the Society's clubhouse in Hollywood the evening of February 14th for dinner and to be entertained by various personalities including Dan Dailey, 20th Century-Fox screen star. Dailey recounted his experiences since entering films, and "rolled 'em in the aisles" with humorous anecdotes of his experiences with various studio executives and directors of photography.

Peter Mole, of Mole-Richardson Company, was presented with an attractive Certificate Of Appreciation tendered him by members of the A. S. C. in recognition of his outstanding contributions in the development of lighting equipment for cinematography.

Event also marked the Society's annual March of Dimes fund raising in which members contributed generously to this worthy cause.

Making his initial appearance at the clubhouse since becoming an associate member, was Mr. H. W. Remerschied, of the Bell & Howell Company, to whom members are indebted for providing the excellent Filmosound 16mm. projection facilities for the A. S. C.'s new projection booth.

Renewing acquaintances and swapping stories was the indefatigable Leon Shamroy, A.S.C., the Society's former president, who recently returned from Italy where for more than a year he directed the photography on 20th Century-Fox's "Prince Of Foxes."

•

BRITISH SOCIETY of Cinematographers was initially launched at an inaugural luncheon January 29th in London according to Jack Cardiff, A.S.C. Freddy Young was installed as president of the Society which numbers 55 members. President Charles G. Clarke of the A. S. C., in behalf of members of the American Society of Cinematographers, sent the British group a congratulatory cablegram on the occasion of their first meeting.



SCREEN LUMINARY, Dan Dailey was guest of honor at A. S. C.'s 30th Anniversary dinner, spoke humorously of his experiences with various A. S. C. members with whom he has worked.

•

JOHN DORED, A. S. C., is stationed in Berlin where he is active as one of Paramount's newsreel cameramen. The 'hottest news spot in the world today," Dored terms it.

•

GEORGE MANDL, A. S. C., will shortly fly to Venezuela where he will photograph a series of pictures for the Princeton Film Center to be directed by Gunder von Fritsch.

•

(Continued on Page 108)

. . . making way for tomorrow

THE STUDY of television's photographic and lighting needs presently being undertaken by the American Society of Cinematographers is typical of this organization's alert and forthright aims in aiding the motion picture industry to embrace a new and highly promising phase of picture making.

It is a foregone conclusion that the television of tomorrow will consist mainly of filmed programs and that Hollywood studios will supply the bulk of these films. Early use of films on video demonstrated that not every kind of film is acceptable for the medium; that films will have to be specifically made for television, films involving different lighting techniques and, especially, careful control over quality of the projection prints.

The A. S. C.'s present efforts toward exploring television's film needs and in developing a filming technique beneficial to electronics engineers and the film industry alike is a laudable effort that deserves the wholehearted cooperation of both industries.

—A. E. G.

★

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ON THE COVER

ROBERT BURKS, A.S.C. (directly behind camera), shoots a closeup for Warner Brothers' production "The Fountainhead." From left to right are: Earl Ellwood, Len South, James Bell, Robert Burks, Patricia Neal, Raymond Massey and King Vidor.

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application.

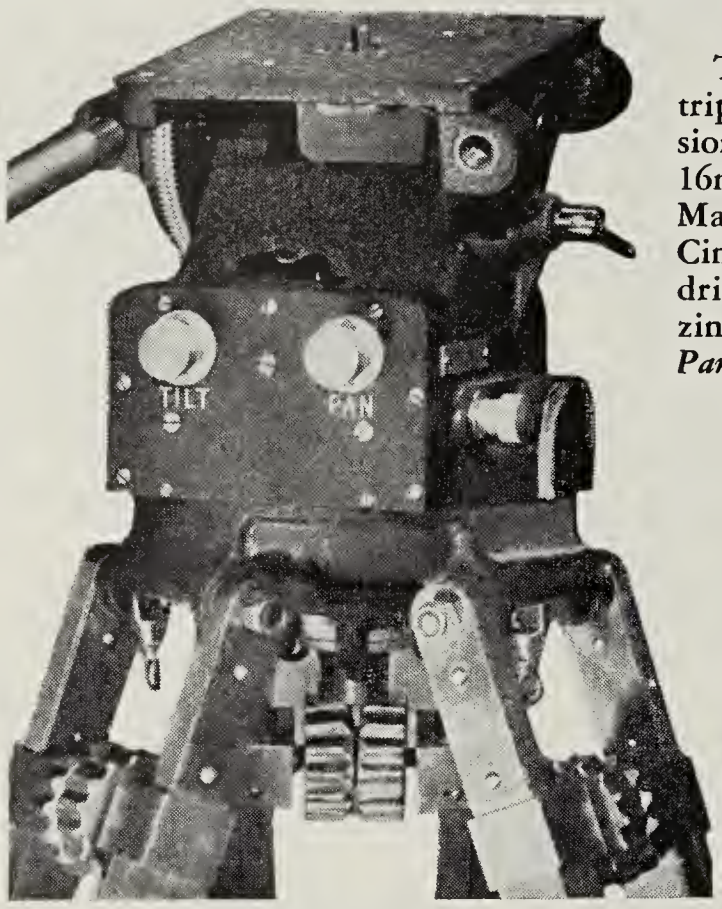
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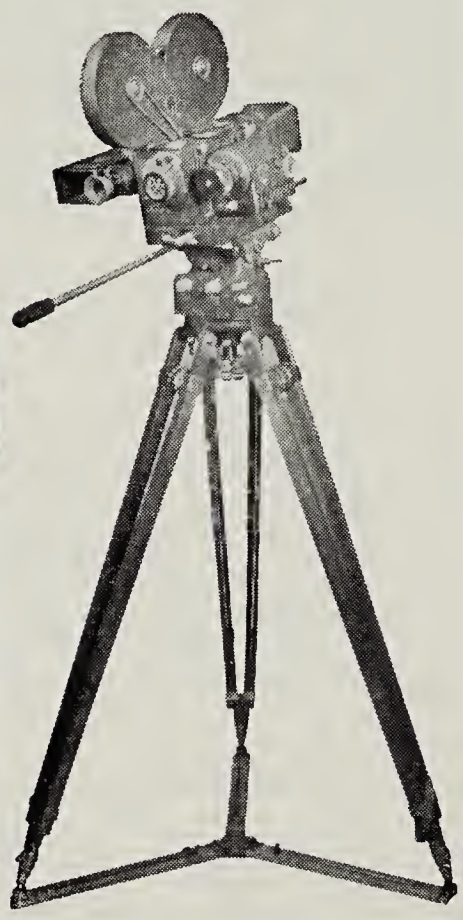
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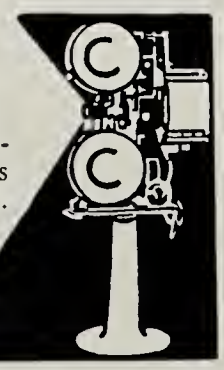
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CURRENT ASSIGNMENTS OF A.S.C. MEMBERS

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

★ ★ ★ ★ ★ ★ ★ ★

Columbia

• CHARLES LAWTON, JR., "Tokyo Joe," (Santana Prodn.) with Humphrey Bogart, Florence Marley, Alexander Knox, Sessue Hayakawa. Stuart Heisler, director.

• SOL POLITO, "Anna Lucasta," (Security Pictures) with Paulette Goddard, Broderick Crawford, Bill Bishop, and Oscar Homolka. Irving Rapper, director.

Independent

• LEE GARMES, "Roseanna McCoy," with Farley Granger, Joan Evans, Charles Bickford and Raymond Massey. Irving Reis, director.

M-G-M

• ROBERT PLANCK, "Madam Bovary," with Jennifer Jones, Louis Jordan, James Mason and Van Heflin. Vincent Minnelli, director.

• JOE RUTTENBERG, "Forsyte Saga," with Greer Garson, Errol Flynn, Walter Pidgeon, Robert Young and Janet Leigh. Compton Bennett, director.

• HAROLD ROSSON, "Any Number Can Play," with Clark Gable, Alexis Smith, Wendell Corey, Audrey Totter and Frank Morgan. Mervyn LeRoy, director.

• ROBERT SURTEES, "That Midnight Kiss," with Kathryn Grayson, Mario Lanza, Jose Iturbi and Keenan Wynn.

• JOHN ALTON, "Border Incident," with George Murphy, Ricardo Montalban and Howard DaSilva. Anthony Mann, director.

• PAUL VOGEL, "Scene Of The Crime," with Van Johnson, Gloria DeHaven, Tom Drake and Arlene Dahl. Ray Rowland, director.

• GEORGE FOLSEY, "Operation Malaya," with Spencer Tracy, James Stewart, Lionel Barrymore, Sydney Greenstreet, John Hodiak and Gilbert Roland. Richard Thorpe, director.

• HARRY STRADLING, "Intruder In The Dust," with Claude Jarman, Jr., Clarence Brown, director.

• ROBERT PLANCK, "The Red Danube," with Walter Pidgeon, Peter Lawford, Ethel Barrymore, Janet Leigh, and Angela Lansbury. George Sidney, director.

Paramount

• STUART THOMPSON, "Dear Wife," with William Holden, Joan Caulfield, Billy deWolfe, Mona Freeman and Edward Arnold. Richard Haydn, director.

• DANIEL FAPP, "Red, Hot and Blue," with Betty Hutton, Victor Mature, June Havoc and William Demarest. John Farrow, director.

• CHARLES LANG, "Rope Of Sand," (Hal Wallis Prodn.) with Burt Lancaster, Paul Henreid, Claude Rains and Peter Lorre. William Dieterle, director.

• GEORGE BARNES, "Thelma Jordan," (Hal Wallis Prodn.) with Barbara Stanwyck, Wendell Cory and Paul Kelly. Robert Siodmak, director.

• JOHN SEITZ, "After Midnight,' with Alan Ladd and Wanda Hendrix. Mitchell Leisen, director.

(Continued on Page 108)

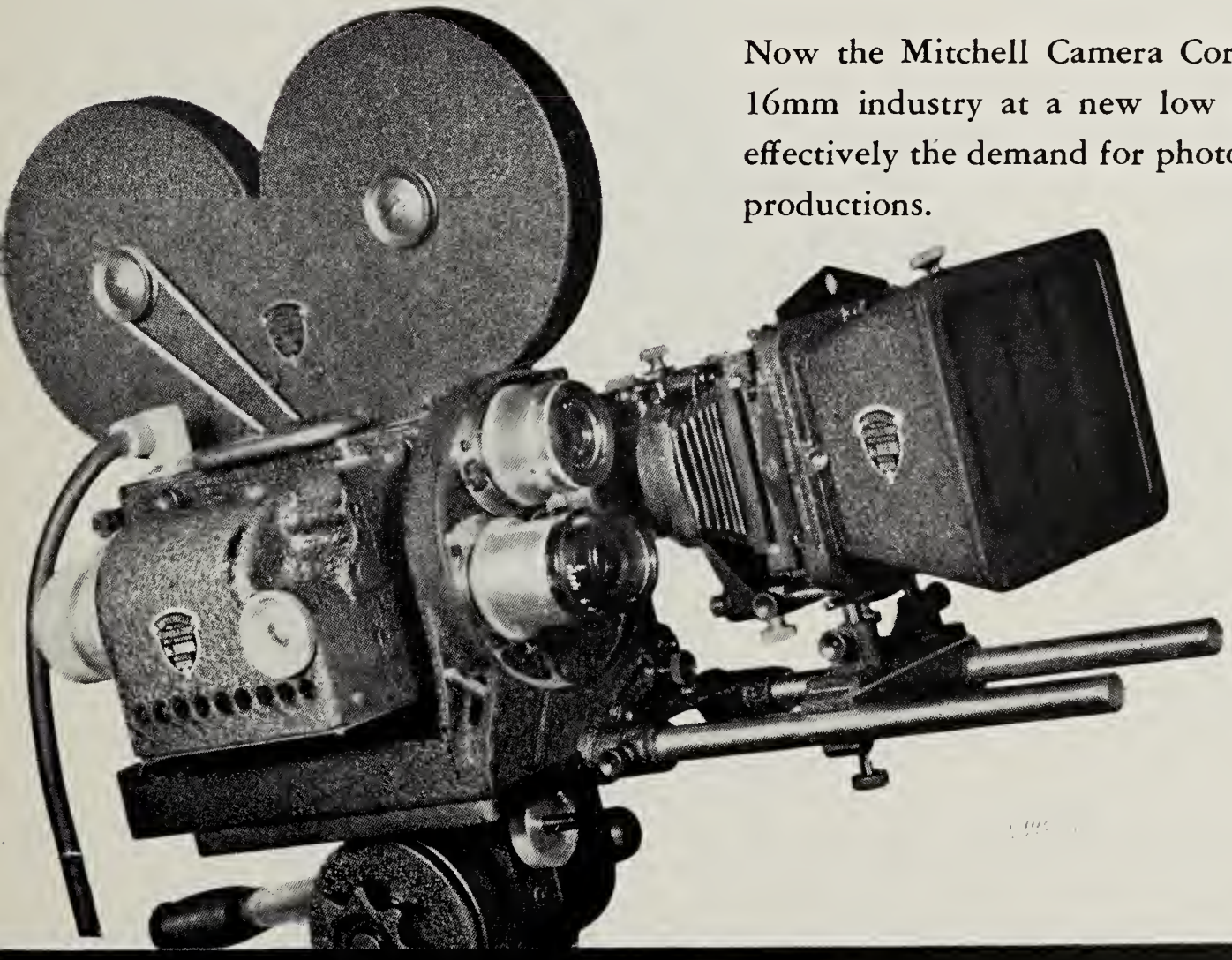
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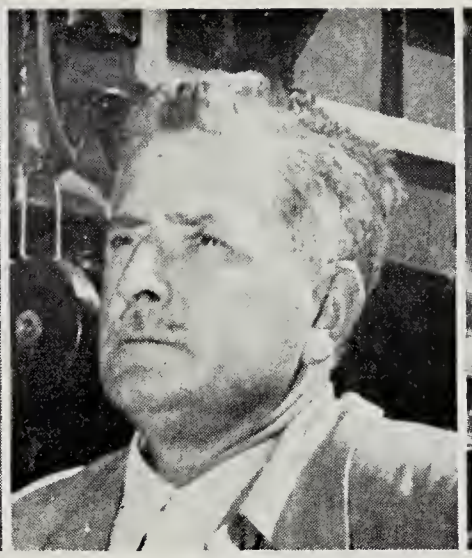
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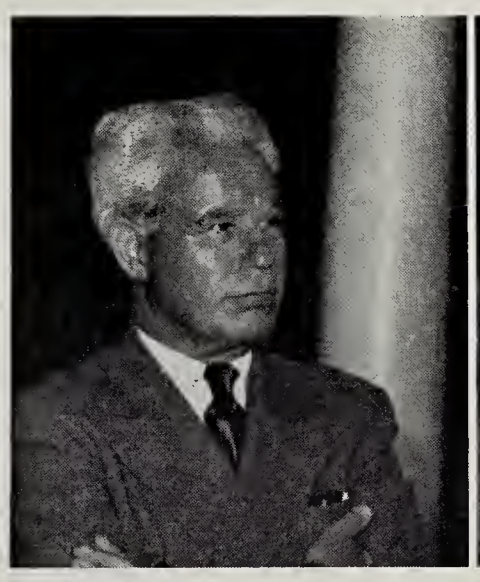
WILLIAM DANIELS, A.S.C.
"The Naked City"



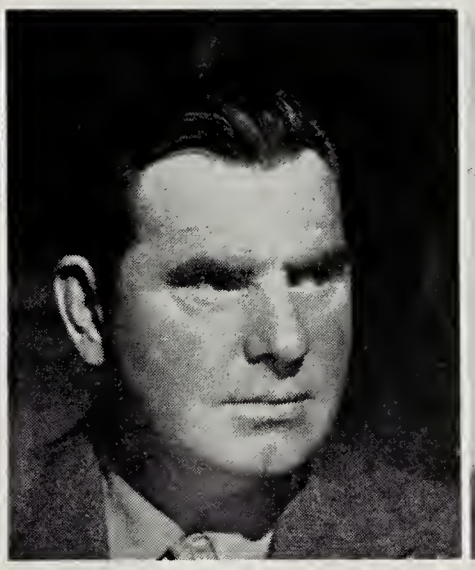
CHARLES B. LANG, A.S.C.
"A Foreign Affair"



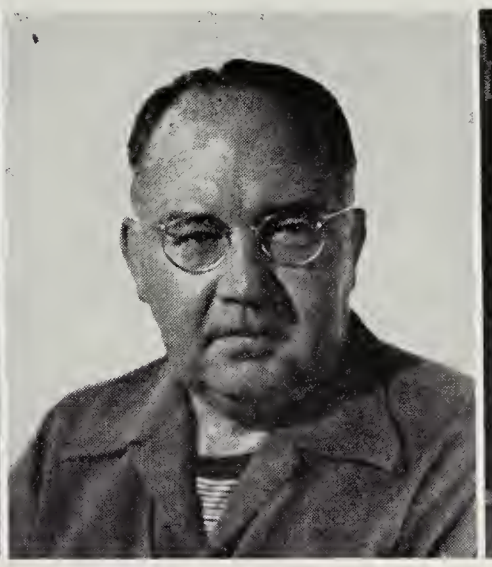
TED McCORD, A.S.C.
"Johnny Belinda"



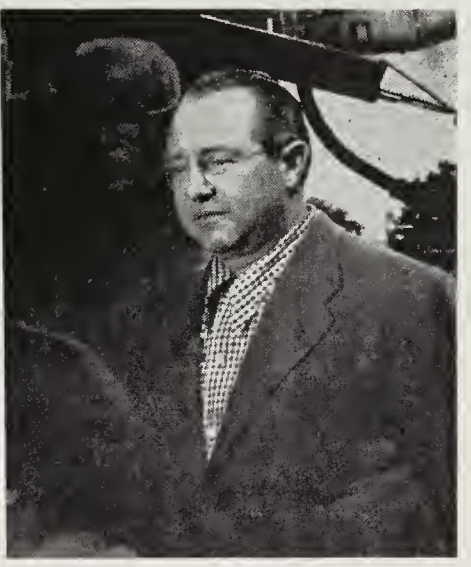
NICK MUSURACA, A.S.C.
"I Remember Mama"



CHARLES G. CLARKE, A.S.C.
"Green Grass of Wyoming"



ROBERT PLANCK, A.S.C.
"The Three Musketeers"



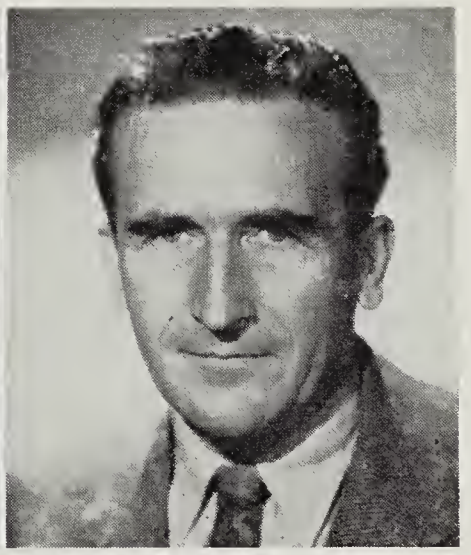
WILLIAM SNYDER, A.S.C.
"The Loves of Carmen"



JOSEPH VALENTINE, A.S.C.
"Joan of Arc"



WM. V. SKALL, A.S.C.
"Joan of Arc"



WINTON HOCH, A.S.C.
"Joan of Arc"

1948 NOMINEES *for achievement awards in cinematography*

ELEVEN directors of photography representing nine outstanding motion pictures have been nominated by members of the American Society of Cinematographers and directors of photography in the Hollywood studios as contenders for Academy Awards for achievement in photography for 1948. These nominees directed the photography on five black and white and four color productions as follows:

Black and White

Joseph August (deceased), "Portrait of Jennie" (Selznick),
William Daniels, A.S.C., "The Naked City" (Universal-Inter.)
Charles B. Lang, Jr., A.S.C., "A Foreign Affair" (Paramount),
Ted McCord, A.S.C., "Johnny Belinda" (Warner Brothers),
Nick Musuraca, A.S.C., "I Remember Mama" (R.K.O.),

Color

Charles G. Clarke, A.S.C., "The Green Grass Of Wyoming" (20th Century-Fox),
Robert Planck, A.S.C., "The Three Musketeers" (M-G-M),
William Snyder, A.S.C., "The Loves of Carmen" (Columbia),

(Continued on Page 98)

The RED

By HERB LIGHTMAN



THIS giant, 300 amp., water-cooled arc spotlight was specially built to provide a spot of light for the brilliant Red Shoes Ballet sequence. The British Mole-Richardson Company and Taylor Hobson Cooke's engineers contributed to its design and manufacture.



A HIGHLIGHT is the sequence in which a pile of newspapers swirl and dance, ultimately assuming the form of a man dancing in unison with the ballet star.

"THE RED SHOES" is a happy marriage of two great arts; the ballet and the motion picture. Produced in London, England, by "The Archers" (Michael Powell and Emeric Pressburger), who in the past brought "Stairway to Heaven" and "Black Narcissus" to the screen, it is a visually beautiful and dramatically stimulating film. A good bit of its pictorial effect is due to the outstanding Technicolor photography of Jack Cardiff, A.S.C., winner of last year's Academy award for his lensing of "Black Narcissus."

"The Red Shoes" is a backstage story of the world of the ballet, a modern romance with fairy tale overtones. It began in the mind of ace scenarist Emeric Pressburger who decided several years ago that he would like to make a film based on the Hans Christian Anderson story of the same name. The high point of the picture is a ballet interpreting the story of the girl who is bewitched by her red dancing shoes, and a direct parallel is drawn between her and the heroine of the modern story.

Powell and Pressburger who, under the name of "The Archers," comprise Britain's foremost team of creative cinema artists, decided that this ballet must be presented in an entirely new way. In its primary sense, ballet is the art of telling a story by dance and mime to a musical accompaniment. Its whole essence is fluidity, and in previous ballet films the camera had fallen somewhat short of transfering this mercurial quality to the screen.

"The Archers" decided that their ballet should be presented as a complete entity within the framework of the film. It should run for under fifteen minutes, as film audiences tend to become restless at any longer interruption of the plot. And the ballet should be filmed without any cutaway shots, so that the motion picture spectator could imagine himself actually sitting in Monte Carlo Opera House watching it on the stage.

The ballet sequence was planned long before production started on the film, and it was decided to work this sequence out first in the abstract form of the color cartoon. First the whole ballet sequence was worked out by production designer Hein Heckroth in the form of 120 full size color sketches. These were then photographed and assembled in sequence, with each separate camera angle in its proper place.

Next, composer Brian Easdale tailored his original ballet score to exactly fit the cartoon ballet. When this juxtaposition of picture and music had been okayed by choreographer Robert Helpmann and the production staff, the music was recorded by Sir Thomas Beecham and the Royal Philharmonic Orchestra. With sound and picture joined, "The Red Shoes" ballet was complete in cartoon form. The actual photography of the ballet presented a difficult challenge to director of photography Jack Cardiff, A.S.C., in that each shot had to match exactly with its cartoon counterpart, the dancers performing to a playback of Beecham's recording.

As each shot in the ballet was completed, it was exchanged for the corresponding cartoon scene, and the sketches slowly began to give way to live action sequences. The production staff constantly checked the composite reel to see how filming of the ballet was progressing.

In the film, the ballet of "The Red Shoes" is represented as being performed on a conventional stage—but it is so very definitely a cinematic ballet that it could never actually be performed on a theatre

SHOES

The ultimate in choreo-photography done in Technicolor by Jack Cardiff, A.S.C.



THE FIGURE gradually metamorphoses into a real live partner of the dancer and together they dance through a scene that is as brilliantly photographed as it was conceived.

stage. It was created to utilize the full scope and wizardry of the camera, and it does this so successfully that a new word, "choreophotography," has been coined to describe the fusing of the two separate arts.

The ballet includes an impressionistic sequence in which the camera mirrors the ballerina's subconscious mind. As she dances, the characters in the ballet identify themselves with the personalities involved in her own life. The shoemaker is synonymous with the ballet impresario who fosters her ambition as a dancer, while her lover sympolizes the young composer who wrote the music for the ballet and whom she eventually marries.

The ballet sequence is a fluid symphony of music, color and motion. It is packed full of camera effects which, however, are so smoothly executed that they rarely call attention to themselves as such. As a visual spectacle, the ballet of "The Red Shoes" is well nigh in a class by itself.

The groundwork for "The Red Shoes" was being laid while Cinematographer Cardiff was hard at work shooting "Black Narcissus." All through the filming of that production he was busily reading up on the ballet, attending performances at Covent Garden, London, and rehearsals at the Sadler's Wells school. Until then no ballet enthusiast, he slowly became imbued with the spirit of the art and began to make slow-motion tests in black and white.

"It had long been agreed that Ballet was a pure stage medium," Cardiff relates, describing the dilemma which presented itself to him. "Here was a theatre art created for viewing through a proscenium, and never intended to be seen from behind or enlarged to enormous individual close-ups and spiced up with trick shots. Yet—although the purists said that ballet must be honestly recorded without cinema stunts and cunning aids to dancers so that they could jump incredibly high with perfect *balloon*—it was agreed that just recording ballet newsreel fashion would be wrong. Otherwise, why use film?

"Having seen the tests I made we agreed that any tricks, such as slow motion, fast motion, or accentuating angles, should be so discreetly used that they would not be noticeable. Nevertheless, to interpret the choreography as though the audience was in the theatre, it was quite necessary for the camera to be a little dishonest. Strangely enough, even straightforward movements look wrong sometimes at the normal speed of twenty-four pictures per second. It proved necessary to use a little faster or slower camera speed."

In spite of Cardiff's logic in explaining his camera treatment, he still had to cope with die-hard ballet purists who objected to this subtle encouragement with the camera. "We recognize a ballerina in the theatre by her own honest dancing, unaided by tricks," they would say, "and now you can make a dancer do literally *anything*—dance on a cloud, do a hundred pirouettes in one go, make some gargantuan bounds that would make Nijinsky hysterical; yet this Olympian virtuoso might, in reality, be a third-rate dancer!"

In answer to this poser, Cardiff says: "Film adaptation of Ballet must be regarded as a separate art. The purists must not count pirouettes and question the truth of faultless execution. They must recognize the fact that just as a film can use a dummy to fall over a cliff, or a model train to crash to destruction, so it must be allowed full expression in what is a perfect subject for the abstract stylization and dream fantasy that a film can so well express."

From the technical standpoint, Cardiff was confronted with the problem of lighting huge stage and theatre areas for Technicolor photography, plus the necessity of finding a spotlight that would burn through the general set lighting to simulate an authentic stage spot effect. He

(Continued on Page 99)



CINEMATOGRAPHER Jack Cardiff is noted for his frequent friendly huddles with players during which he explains his photographic problems and secures their cooperation toward a better screen result. Crouched beside his Technicolor camera, Cardiff chats with stars Robert Helpmann, Moira Shearer and Leonide Massine.

Firelight That's Real

Lee Garmes, A.S.C., scores unusually realistic lighting effects in "Roseanna McCoy," using the Toland & Hoge electrical firelight flasher.

By FREDERICK FOSTER

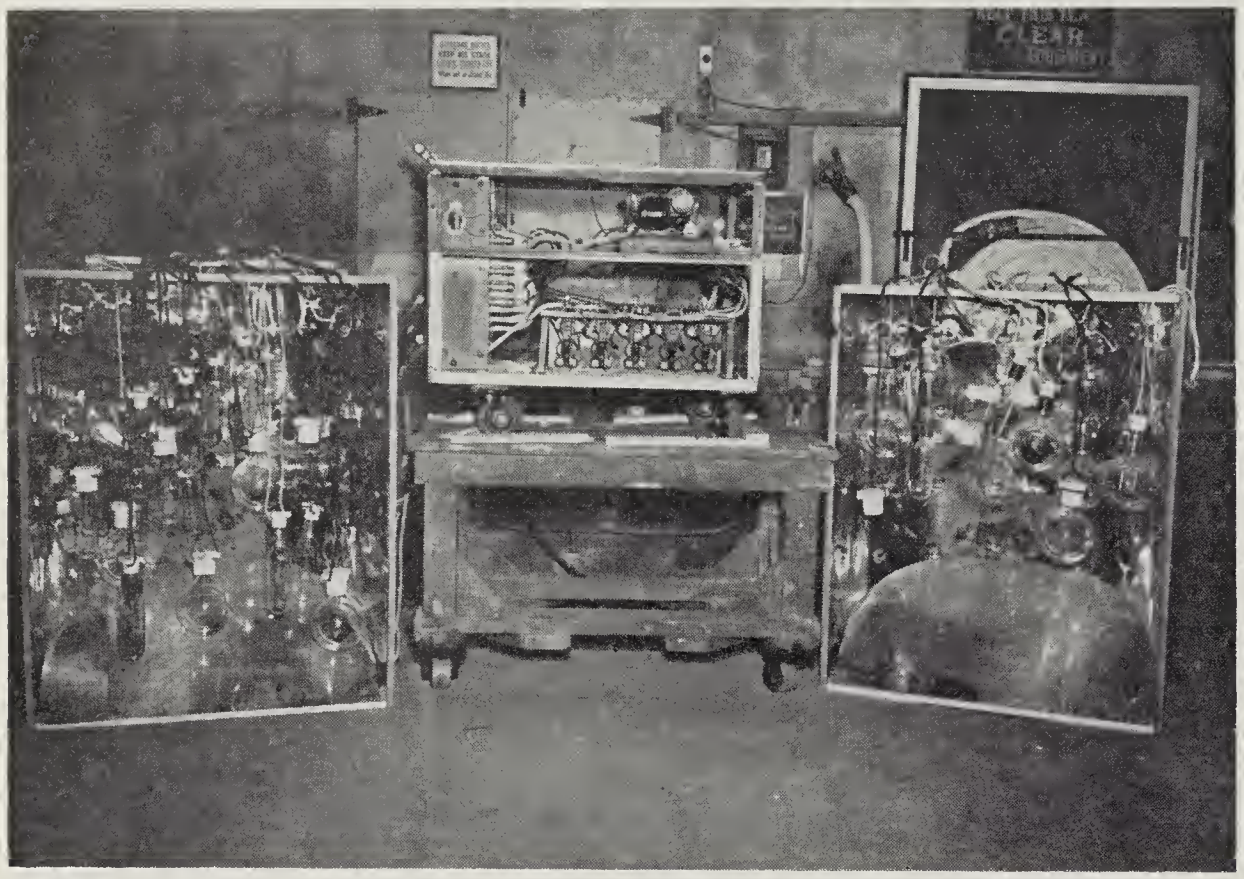


FIG. 1—This "Rube Goldberg" affair is the first really successful device for producing the true effect of firelight in motion pictures. Designed and assembled at the Samuel Goldwyn studios by the late Gregg Toland and Ralph Hoge, the unit consists of the flasher (center), and two bright metal reflecing units before which are hung twenty-four 1000- and 2000-watt lamps.

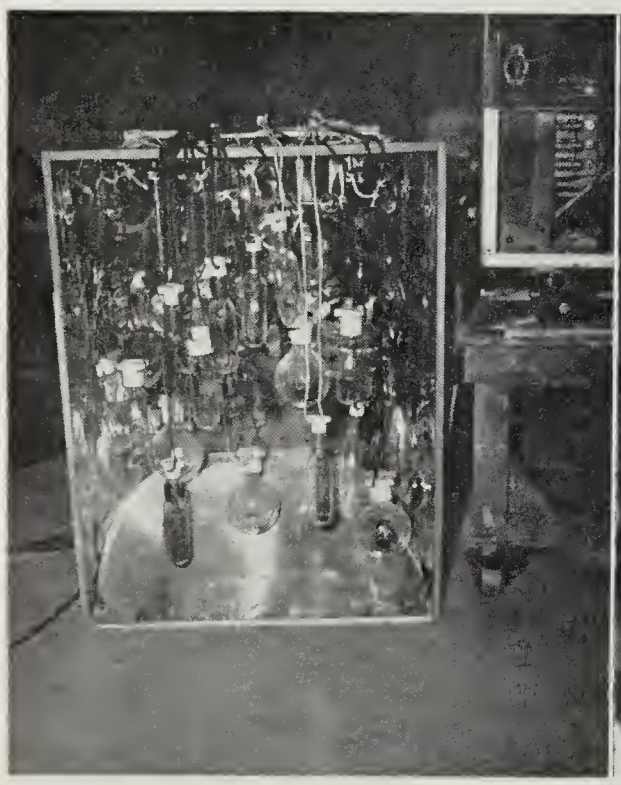


FIG. 2—The lamps are deliberately suspended at various levels in order to produce flickering light from various angles, similar to that from a fireplace. The order, frequency and duration of light flashes from the lamps may be controlled, depending upon the type of fire to be simulated.

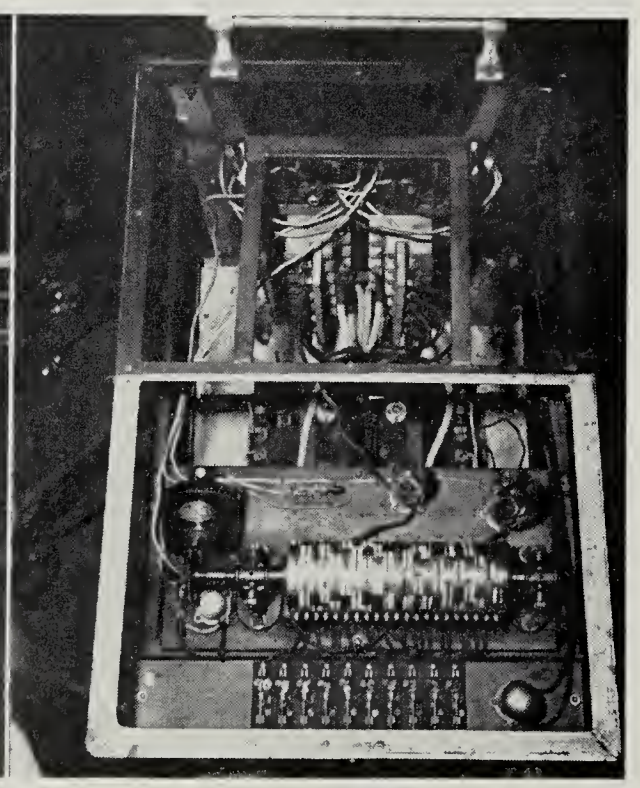


FIG. 3—Top view of flash-activating unit. At bottom is revolving cylinder with 24 contact points touching the cylinder. These excite 24 solenoids which in turn send current momentarily to the lamps hung before the semi-circular reflector on the set. As cylinder rotates, contacts "make and break."

THE ILLUSION of flickering light from a fireplace is something that effects men have sought to perfect for years, but it remained for the late Gregg Toland and Samuel Goldwyn's head grip, Ralph Hoge, to achieve it with an improvised lighting rig that might have been designed by Rube Goldberg. It is said to be the first gadget that actually creates the sort of light that a real fireplace produces; all the other effects used up until now produced a flickering light that lacked realism—the irregular flicker with constantly varying intensity that we really see if we study the light given off by a log fire.

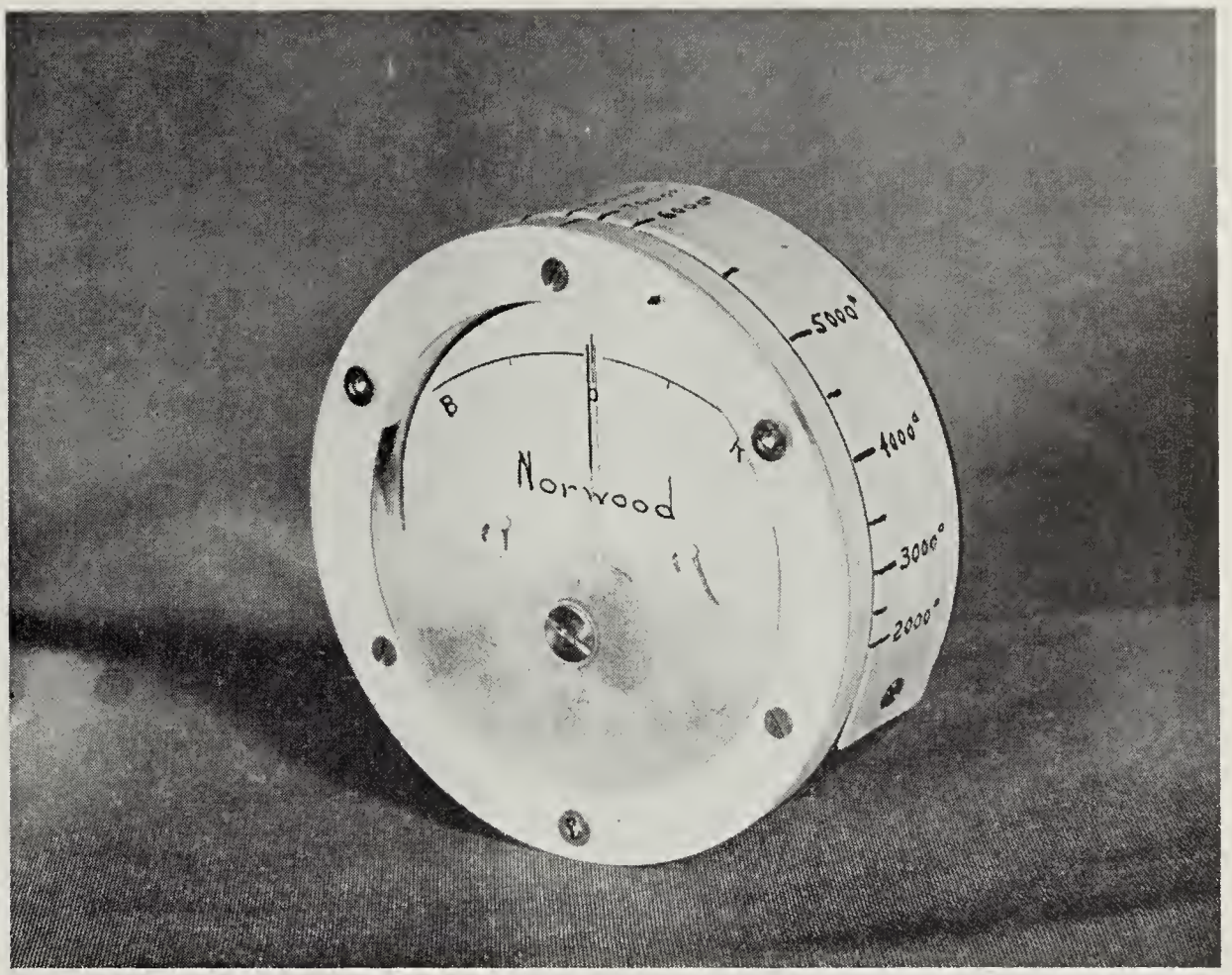
Toland first used his invention in filming Goldwyn's Academy Award winner, "Wuthering Heights," and although it also was used later with equal success in "Enchantment," it has remained for Lee Garmes, A.S.C., to give this unique lighting effect its supreme test in Samuel Goldwyn's "Roseanna McCoy."

Much of the charm as well as the dramatic impact of "Roseanna McCoy" is due to the effective lighting of Garmes, who has set as a goal for this picture the most natural lighting it is possible to achieve with present-day equipment. Much of the action in "Roseanna McCoy" takes place at night or at dusk, or in the dimly lit interiors of mountaineer's cabins. Garmes has sought to keep the lighting perfectly natural at all times and devoid of any lighting license of any kind. Light is concentrated on players' faces, but it's a subtly subdued light, and there is never distracting over-illumination in the backgrounds to divert attention.

Garmes also is using "pin-point" apertures to achieve great depth of focus on all shots—something on which Toland specialized and which he had planned for this picture before he passed away. This treatment gives not only depth but brittle crispness to the scenes lit in low key—enhancing the subdued lighting by making objects stand out with greater clarity. There is less strain on the eyes in watching these scenes on the screen, too.

With so many of the interiors staged within two mountaineer's cabins, firelight naturally became the dominant problem inasmuch as "natural lighting" on these sets would mean in most instances light from the fireplace. To make this firelight appear completely natural, Garmes has brought Toland and Hoge's effects device on the sound stage and put it to use. It consists of three units, as shown in Fig. 1, —the flasher (center) and the flashing reflectors at either side. In use, the flasher may be located in some remote corner of the sound stage while the flashing reflectors are set up on or close to the set, depending upon the effect desired. The latter, shown in detail in Fig. 2, consists

(Continued on Page 106)



TEST MODEL of newly developed Norwood Color Temperature meter which has undergone exhaustive tests in use with all types of color films, indoors and out. Compact and light in weight, meter reads color temperature directly. Detachable scale plates also afford direct readings in terms of correction filters required and for the various types of color films.



CAPTAIN Don Norwood, who also introduced the Norwood Director exposure meter, shows pocket-size feature of meter. It is estimated new meter will sell for about same price as average exposure meters.

A New, Vest-pocket Color Temperature Meter

By CAPTAIN DON NORWOOD

SEVERAL YEARS ago, in 1939-40 to be exact, I had the pleasure of introducing, in the columns of the American Cinematographer, a new and valuable type of exposure meter. That meter was the Norwood Director. It represented the culmination of several years of prior research and development in my laboratory. The meter apparently filled a distinct need, because now many tens of thousands of those meters have been manufactured and are giving excellent service to photographers.

At this time I again take pleasure in introducing, in the American Cinematographer, another new meter. This meter is a device for measuring color temperature of illumination. This meter also is the result of considerable intensive research. It offers a number of practical advantages not found in any similar device.

Professional cinematographers are well aware that the color balance of illumination is a factor of considerable importance. In the case of black and white films, variations in color temperature may cause quite noticeable variations in film results. In the case of color films the color temperature is a decidedly critical matter. Color temperature must be exactly right to match the color balance of the color film if satisfactory results are to be attained.

The above described situation points to the need for a good practical color temperature meter. I have developed a meter which seems to me to just fill the bill. The illustration (above right) shows a ¾ view of the complete meter. The instrument is in the shape of a disk, being 2 9/16 inches in diameter and only 1 inch in thickness. A number of elements are installed in that compact disk. The galvanometer dial may be seen at the left. The color temperature scale plate may be seen on the circumference of the disk. A color valve is located on the far side of the disk. This color valve is operated when the circumferential rim, which carries the color temperature scale, is turned. Inside of the disk is a a galvanometer movement, a photo-voltaic cell, and color filters.

I will describe some of the requirements of a good practical meter for this purpose, and show how the Norwood Color Temperature meter meets those requirements.

First, the instrument must be quite accurate. This fact rules out the visual type meter, since that type depends on personal color vision. Color vision may vary from individual to individual, and varies in any given individual according to circumstances, which makes it undesirable for use as a reference standard. The Norwood Color-Temperature meter makes use of a photo-voltaic cell, a galvanometer, filters and light valves. It is quite impersonal, and highly accurate.

A practical color temperature meter must be easy to operate. The Norwood C-T meter is operated by pointing it toward the light source, and rotating the light valve until the galvanometer needle points to zero. At this time the color temperature may be read on the circumferential scale, adjacent to the index line. The null-reading position of the galvanometer

(Continued on Page 96)

Television Photography

SECTION



TEMPORARILY chairmanned by Stanley Cortes (seated), A. S. C.'s Television Research Committee includes (left to right) Lee Garmes, George Folsey, Karl Struss, Victor Milner, Charles Rosher, and Arthur Miller and Hal Mohr, not pictured—all members of the A. S. C.

A. S. C. Inaugurates Research On Photography For Television

Eight-man research committee begins study of television's lighting and photographic requirements.

By VICTOR MILNER, A.S.C.

ANTICIPATING the role motion pictures and particularly directors of photography utlimately will play in television, the American Society of Cinematographers last month appointed an eight-man research committee for the purpose of studying and reporting on equipment and techniques presently employed in both live and film television broadcasting. Temporarily chairmanned by Stanley Cortez, A.S.C., the committee includes Victor Milner, Karl Struss, Hal Mohr, George Folsey, Charles Rosher, Lee Garmes, and Arthur Miller—all members of the A.S.C.

Anticipating that closer cooperation between television and motion picture technicians is inevitable and because there's a rising opinion that the latter industry's directors of photography are the logical men to aid TV in improving lighting and video camera techniques, members of the A. S. C. have taken the initiative, just as they did in the early days of the motion picture industry's transition from silent to sound films and, later, with the introduction of color to motion pictures.

Recently it has been implied that Hollywood technicians have attempted to intrude their techniques on television production. The point was made again at the recent Academy of Television Arts and Sciences' awards presentation ceremonies when one spokesman voiced his disapproval of what he termed the "intrusion" of the motion picture industry and its film technicians in television. The Society's research committee wishes to reassure television men that their aim is to help rather than hinder them.

Happily, the Society's interest in television is being accepted with enthusiasm by most of the electronics engineers of Hollywood's television industry. Top men in NBC's television staff recently appeared before members of the A. S. C., at one of the Society's recent technical meetings, enlightening them on television's aims as regards photography and the production of films for the medium. More recently, A. S. C.'s research committee was invited to visit NBC's television studios in Hollywood, where demonstrations of the type of motion picture photography most suitable for television were presented. Also demonstrated were the results on the television screen of motion picture films improperly printed for the medium.

NBC engineers demonstrated the network's modern processing and projection equipment for telecasting of both 16mm. and 35mm. motion picture films. At the same time, the engineers demonstrated on closed circuits the maximum reception quality that may be achieved with Kinescope film productions—motion pictures made of live television programs photographed in 16mm. directly off the kinescope tube.

The committee's research program include's a series of analytical studies to determine the best type of photography suitable for TV transmission; the best types of shots for television films; the suitability of current studio lighting techniques to the production of live TV shows; and the extent to which fundamental feature film techniques can be utilized in the production of motion pictures for television. The application of process photography and background projection in live shows will also be explored.

The actual photography of live shows will also be studied. The Society members will probably undergo a brief instruction course in the operation of the RCA image orthicon television studio camera, so that they shall be better informed on the scope

(Continued on Page 100)



KLAC-TV's cameraman, John DeMos, was formerly a newsreel photographer and cameraman on commercial film productions and brings to West Coast television a fresh approach to TV camera technique. His coverage of grid events in Los Angeles last season has been hailed as some of the best TV photography of football to date.

The Cinematographer's Place In Television

By JOHN De MOS

Television Cameraman, KLAC-TV

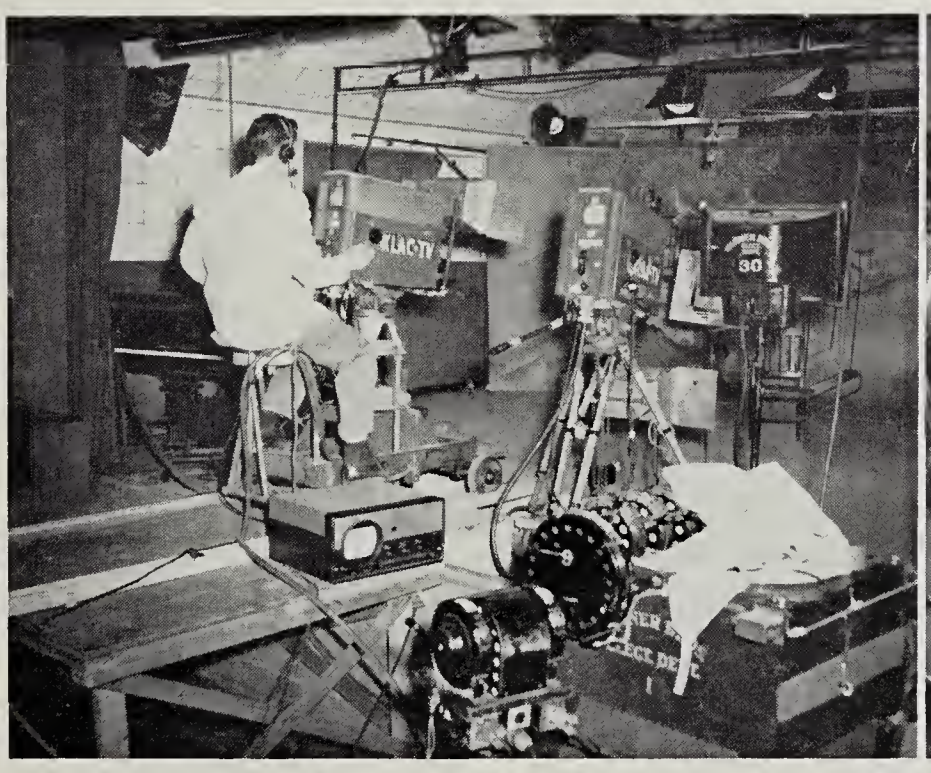
TELEVISION, far from threatening the security and future of Hollywood's motion picture photographers, actually will open up broad new horizons for many of them. In addition to the renewed studio production activity that will follow, when the use of films in television really hits its stride, TV studios will undoubtedly draw upon Hollywood cinematographers to man its cameras and to bring to the industry their broad knowledge of photography and lighting.

Lighting, of course, is the one big problem of TV which is being kicked around not unmercifully by some of the TV men themselves and by TV's armchair critics. The fact is, however, that even where improved lighting is in effect, it is still possible for the picture to turn out bad on the receiver screen because of several factors. For one thing, the electronics engineer at the studio holds the success of any TV program's pictorial quality in the palm of his hand — virtually between thumb and forefinger—as he twists the tiny dials that raise or lower contrast or balance the overall contrast of the picture. Add to this the impulse of the average receiver owner to tamper with the controls of his set and it is easy to see that what goes into the Kinescope tube *good,* can come out *bad* at the receiving end.

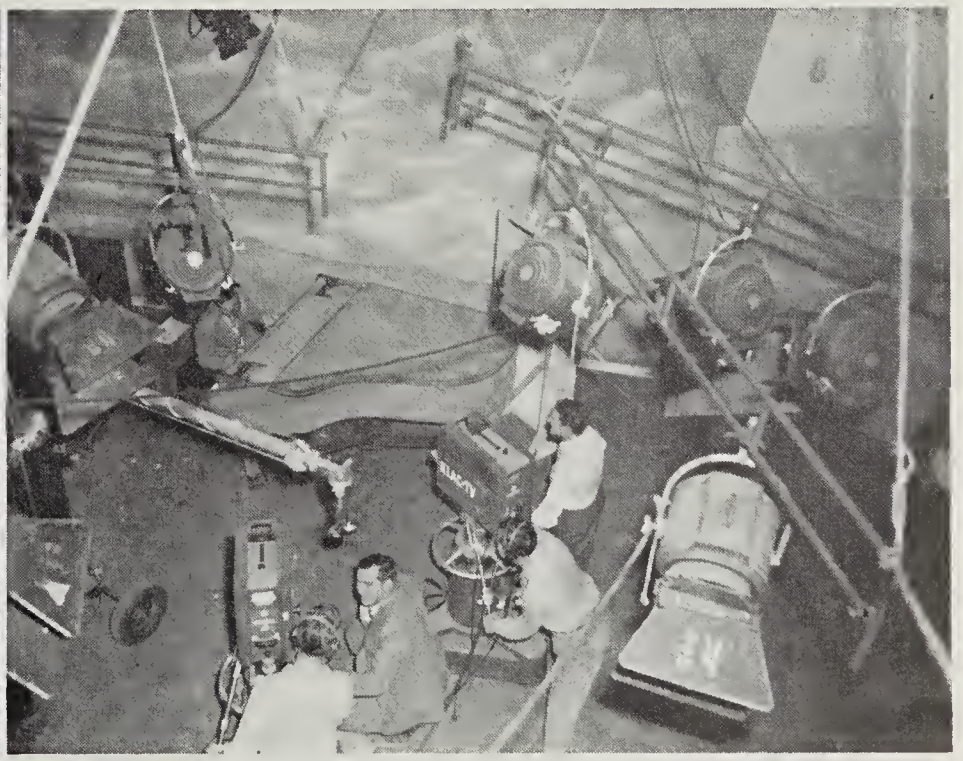
Television producers are generally agreed that the great need today is for experienced motion picture cameramen, lighting engineers and motion picture directors, and as soon as the business justifies the cost, these men will be sought for the important contributions they can bring to the industry.

I feel fortunate in being among the first motion picture cameramen to experience the transition from a photographic to an electronic camera. I had

(Continued on Page 102)



AMONG improvements recently introduced at KLAC-TV are regular motion picture lighting equipment, dimmers and other lighting controls. Front fill lights are used on the camera and position of overhead lights are remote controlled at an off-stage point.



HERE is an overhead view of KLAC-TV's lighting equipment—standard motion picture lighting units mounted on tubular metal rigging above the stage. With this equipment KLAC-TV is achieving excellent modeling and multi-dimensional effects in lighting studio productions.

New Lens Testing Method May Improve TV Picture Quality

RCA develops method of analyzing and rating ability of various types of lenses to show picture detail.

By R. B. HARTWELL

A NEW DEGREE of realism in television may result from a new method of measuring contrast characteristics of both optical and electrical lenses. Developed by Otto H. Schade, advance development engineer of the Tube Department of the Radio Corporation of America, the method is also applicable to contrast measurements for different types of photographic film and television screen materials.

Employing what is essentially a television pickup and reproduction system, it provides the television industry with the first known practical method of analyzing and rating the ability of various types of lenses to show picture detail.

For industries developing or using image-forming devices, this method means the end of guesswork and, for the first time, permits objective selection of lenses that will produce the best results in various types of systems. Data on the imaging power of the human eye has been incorporated in the procedure for plotting the overall response of lenses and other elements, so that the practical value of improvements in picture quality can be determined in terms of the observer's ability to detect them.

The theoretical values by which lenses have been rated heretofore, Mr. Schade explained, are based on their limiting or highest power of resolution—that is, the greatest number of lines of picture detail per millimeter which they can focus on film or viewing screen.

However, useful resolutions for photography and television are limited, respectively, by the response of photographic film and the width of television frequency channels. To improve picture detail within these limitations, the research engineer in these fields must strive for sharper contrast of light and dark picture elements within lower ranges of resolution—about 50 lines per millimeter in photography, and one-fifth as many lines in television. The system developed by Mr. Schade affords the first practical means of determining the contrast response of lenses in these ranges, or in any specified range from zero to the limiting resolution.



The realism of a simple scene, such as being televised here, may depend as much upon the camera's optics as it does on lighting and other factors, according to recent findings by engineers who have devised a new means of testing contrast characteristics of the lenses used in television.

The equipment chain employed in the system, he explained, consists essentially of a specimen mount, a lens mount, a microscope, a television camera, a television picture tube or kinescope, and an oscilloscope, arranged in that order. A test pattern made up of a series of vertical and horizontal lines of diminishing size and spacing is mounted before the lens to be tested or rated, and a greatly reduced image of the pattern is produced. The microscope enlarges this image before it is picked up by the television camera, providing a large, easily studied television image on the kinescope, and a large, acurate "trace" or wave-form image on the oscilloscope. The latter image is formed by feeding a portion of the electrical signal from the television camera to the oscilloscope.

Using this trace or wave-form as a basis, Mr. Schade has worked out a system for plotting curves on a chart to show the contrast or detail response of a given lens at any degree of resolution.

Similar ratings for the electrostatic or electromagnetic lenses used in television camera tubes can be charted by an application of the same principle, while ratings for similar lenses in kinescopes are established by a modification of the system employing RCA's "flying spot" scanning tube to analyze the kinescope image.

"It is theoretically possible to compute the detail contrast of a lens at any resolution," Mr. Schade said, "if we know the size and light intensity distribution of the light spot formed as the image of a point of light. The finer the spot, the better the detail contrast.

"However, since this spot assumes all kinds of queer shapes, particularly in the case of optical lenses, when it is moved over the picture area, measurement of its size and light distribution is very difficult. Even when such measurements can be made, there is the problem of using the spot to generate a picture before we can determine how it affects detail contrast.

"It remained for television to provide the practical means for obtaining these data, which are needed, not only by television itself, but by all activities concerned with image-forming devices. A television system is actually a continuously tracing micro photometer in which a tiny "scanning aperture"—the electron beam—analyzes the image along hundreds of parallel lines, translating light intensity into electrical currents which can be made visible again as an image on a kinescope or as a

(Continued on Page 102)

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There's one way, however, to help overcome this reaction. And that's to use super-fast Ansco Triple S Pan Reversible Film. For with this fast film in your camera, you can use less artificial lighting or move your lights farther back.

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Triple S Pan has a long, smooth gradation scale. Because of this, your movie scenes will be complimented for their fresh, professional look. Let your dealer tell you more about Ansco Triple S Pan Reversible Film. **Ansco, Binghamton, N. Y.** A Division of General Aniline & Film Corporation. "From Research to Reality."

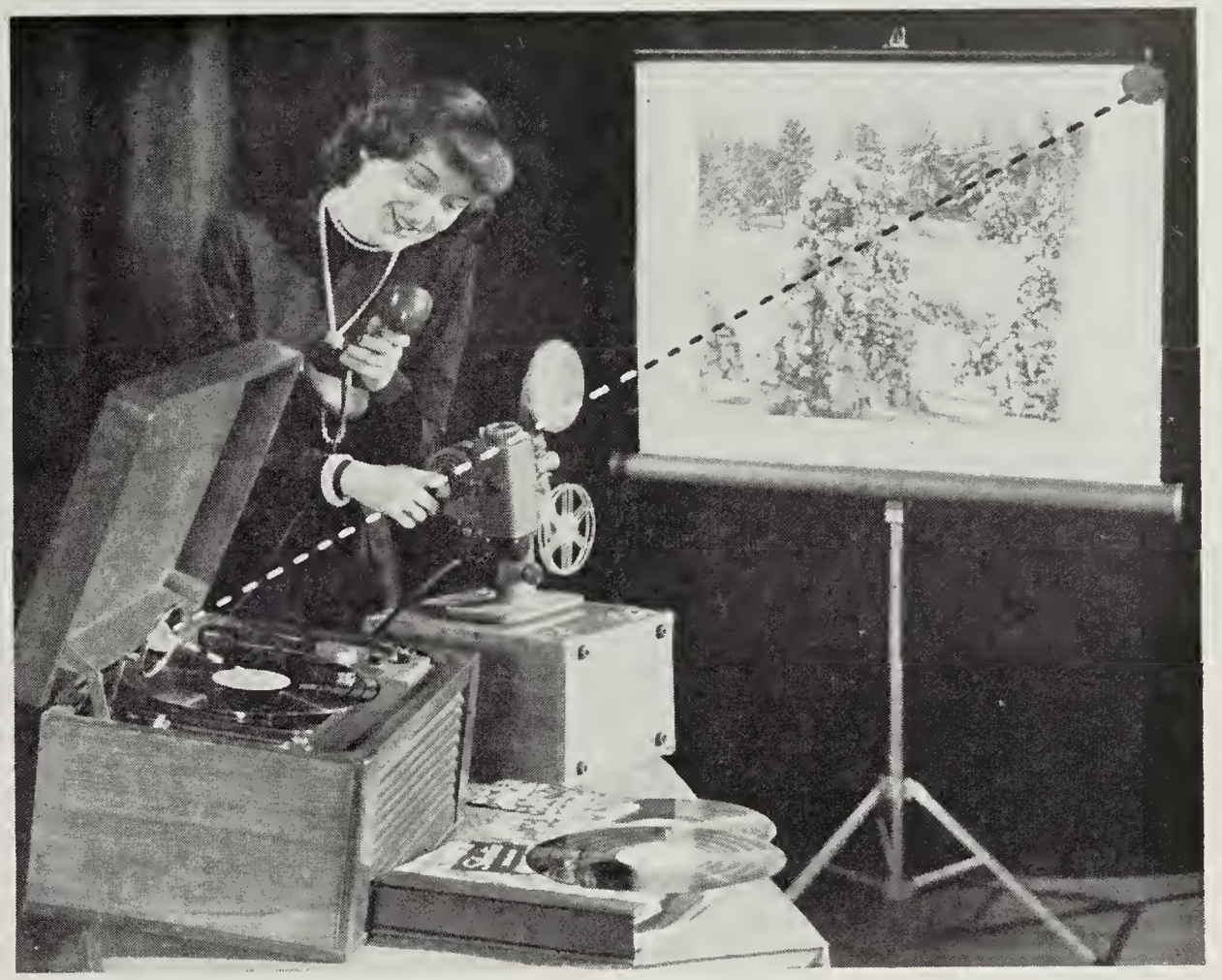
TIPS ON TITLES Next time you take pictures of your child, try printing the title on a large piece of cardboard—have your child walk in with the cardboard under her arm, and then hold it up in front of the camera. Makes a very effective title run.

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8 AND 16MM

TRIPLE S PAN FILM



SHOWING the new Silvertone movie sound kit in use. Projector speed is kept in sync with wire recorder by means of stroboscope disc and light reflected from screen to disc. In operation, flickering light beam from projector is reflected from screen by small mirror back to another mirror on recorder, thence to strobo disc on turntable (see dotted lines). Operator adjusts projector speed until strobo disc segments appear stationary, indicating both machines are in sync.

Synchronized Sound For Home Movies

New method employing mirrors and a stroboscope insures absolute synchronization of home recorded sound with 8mm. or 16mm. movies.

By BERNARR WIXON
Radio Division, Sears, Roebuck & Co.

WE MADE our silent camera talk! And we did it for only a fraction of the cost usually associated with sound projection. Putting sound into home movies has always been a highly desirable but almost impossible task, but the growth of wire recording gave us a clue. Why not synchronize our silent projector with the sound from a wire recorded script. Sounds simple? Well! The main problem was to put feet of film and revolutions per minute on a comparative basis, and since the wire recorder runs at a constant speed, the projector has to be synchronized to the recorder. That briefly is what lead to the development of the Silvertone Home Movie Sound Kit.

The simplest method for checking the speed of any rotating mechanism is the use of the stroboscope, a flat disc with a number of black and white segments around its perimeter, such as commonly used for testing speed of phonograph turntables. This disc, when revolving and illuminated by an intermittent light, such as an alternating current incandescent lamp, will appear motionless when travel speed of the segments correspond to the light flash interval.

We found that the flickering light issuing from a projector lens could also be utilized for this purpose when the stroboscope is designed with respect to the projector flicker interval. We found that by reflecting this light back from the screen by means of a small mirror, so that it would be made to fall upon the stroboscope disc by means of a second reflecting mirror, it would net the same speed controlling result. However, in this instance, we place the strobo disc on the recorder turntable which already has a fixed speed, and use it to keep in check the speed of the projector by adjusting the projector speed until it coincides with that of the recorder. That took care of operating both projector and recorder in sync.

Our next problem was how to get both film and sound recording to *start* simultaneously or in sync. This was solved by attaching to the film a generous leader strip and punching three cue marks at one end with a pin, each 12 frames apart. This gave us a 'Get ready', 'Get set', 'Go' indication on the screen. When the 'Go' dot flashed on the screen we started the recorder and adjusted the speed control on the projector until the stroboscope disc looked like it was standing still. We then maintained this condition by readjustment of the speed control. The better grades of projectors will run very steady and require little attention. Thus you can concentrate on the recording, or film, depending upon whether you are making the sound track or enjoying the results.

Take your movies at your convenience, edit them, prepare a script, or commentary, and make your own "talkies" by putting the sound on wire. One person can actually do the job, but the task will be easier and lots more fun if you have a couple of helpers. For example, one person on synchronization, one handling scripts, another assisting with sound ef-

(Continued on Page 106)



THE professional results obtained by amateur film producer, Ray Maker, are a product of painstaking preparation. He is shown here putting finishing touches on his midget train, the wrecking of which is one of high spots in his picture, "Dark Timber."



HOLLYWOOD'S best special effects men have never surpassed Ray Maker in the effectiveness of this miniature scene which was staged in an old Oakland, Calif., rock quarry. Maker built the model engine and cars himself.

An Amateur With Professional Ideas

Although his 16mm. movies display every professional technique, Ray Maker, Oakland, Calif., garageman insists he's still an amateur movie maker.

By ARTHUR ROWAN

RAY MAKER was born in Sacramento, California, 52 years ago, knows mining and pioneer history, has never been in professional movie work and has no relatives in the business. He once worked as a movie projectionist and that started him on his hobby of making movies.

During the past ten years Maker has completed ten 16mm. movies, eight of them in color and sound. His most recent production tops them all. Titled "Dark Timber," it is a pioneer logging story about a villianous lumberman who seeks to control the industry regardless of cost, blowing up railroad trestles, if necessary, in order to keep out competition.



RAY MAKER (plaid shirt, cigar, far right) gathers his cast and technicians from within his wide circle of friends. His wife acts as script girl and camera assistant. Maker filmed "Dark Timber" with a battery driven Auricon camera and enlisted aid of two friends to also cover the action with their cameras while shooting the spectacular train wrecking scene.

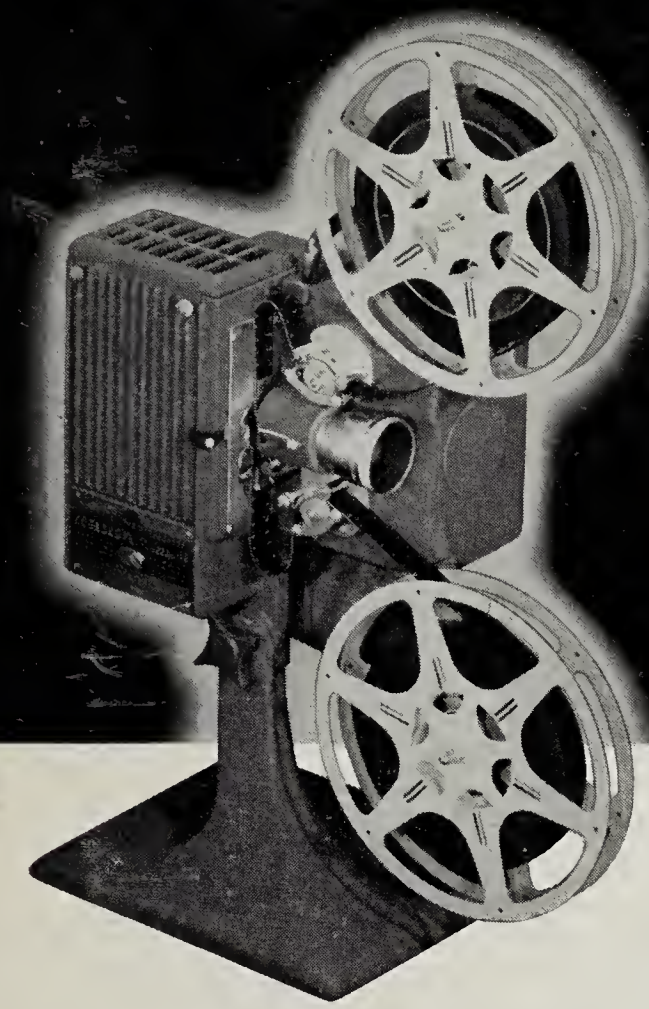
The production of this picture demanded use of all the latest Hollywood production techniques except, perhaps, background projection—possibly the only one Maker has not attempted thus far. But he will, eventually, and successfully, too. Maker is an example of the real dyed-in-the-wool amateur movie maker—the fellow who avidly studies movie making techniques from the screen, reads everything he can on professional motion picture production techniques, then sets about to reproduce the same techniques with 16mm. equipment. The fact Maker has been avidly turning out amateur movie films for 15 years proves that there's endless enjoyment in the hobby once you turn to serious work instead of simply shooting movies hit or miss.

Maker writes all his stories, directs, builds scenery and miniatures, assembles actors from among his friend and gets more ambitious with each new success. His studio for interior shots is at his home, where his wife often assists as script girl and camera operator. Screen actor Gregg McClure, featured in "The Great John L," is said to have played his first movie role in one of Ray Maker's early 16mm. films.

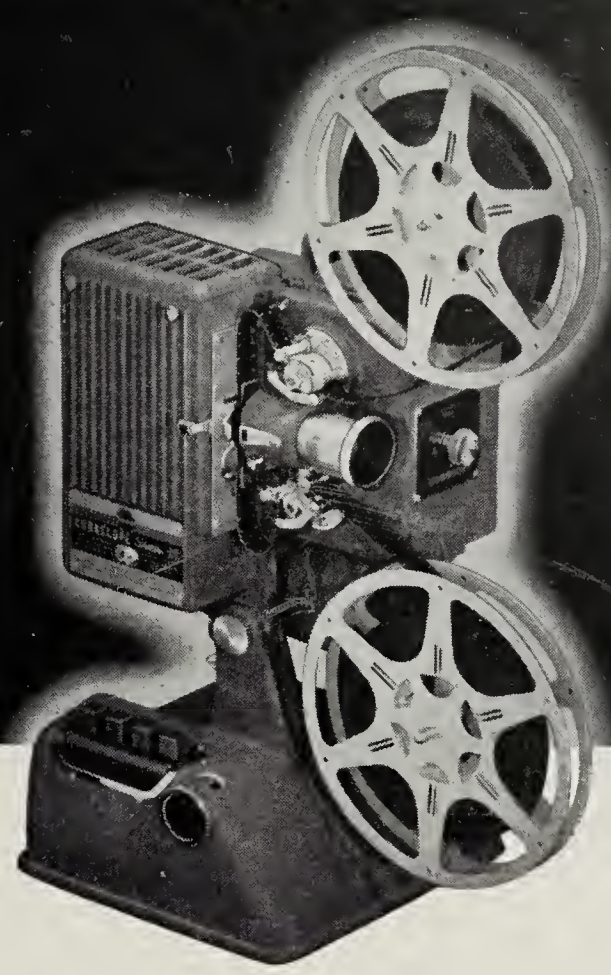
After completing a script, Maker usu-

(Continued on Page 97)

Kodascope Projectors



Kodascope Sixteen-10 Projector Excellent optical system—fine, fast Kodak 2-inch f/1.6 Ektanon Projection Lens and brilliant 750-watt lamp. Accepts other lenses, other lamps (to 1000 watts) for "tailor-made" projection. The price—only $147.50.



Kodascope Sixteen-20 Projector The same mechanical and optical excellence, the same lens-lamp versatility as Sixteen-10—plus extra ease in use...luxury, "push-button" operation. $245, with Standard Carrying Case; $261.50, with Projecto Case.

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You'll see the results on your screen—*better, crisper, more uniform rendition of your movies!*



Important as it is to the proper projection of 16mm. movies, the field-flattening element that is part of the standard lens regularly supplied with 16mm. Kodascope projectors is but one of many reasons for making a Kodascope projector *your* projector.

Another is optical versatility—both of the "Sixteens" illustrated above come equipped with 2-inch lenses and 750-watt lamps . . . ideal for average projection conditions. But if you plan to show your movies under unusual conditions—long "throws" in spacious auditoriums, or very short "throws" in small rooms—you can buy your projector "tailored" to your needs with your choice of several other lenses and lamps so that screen areas and brilliance are exactly *right* for the size and seating of your audiences. All standard and accessory Kodak Projection Lenses are *Lumenized*—ultrahard coated at all glass-air surfaces for better, brighter movies. Whatever your lens-lamp selection, screen results will be unsurpassed.

You'll also like the ease of operating a Kodascope projector—adjustment controls are simple and positive in action . . . conveniently located. Threading is handy, too—sprockets and gate are wide-opening, easily accessible.

Trimly handsome in appearance, rugged in operation, Kodascope projectors are outstanding performers on every count. Better plan to see them soon—at your Kodak dealer's.

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IT IS important to have the cameraman present on all important pre-production conferences. Looking at the story in terms of camera angles, lighting etc., he can suggest many short cuts that not only will save money but enhance the production, too.—Photo courtesy Rockett Pictures.

Planning The 16mm Commercial Film

The first in a series of articles dealing with making of 16 mm. commercial films points up the importance of careful production planning.

By CHARLES LORING

PRODUCTION planning is at least as important to the 16mm. commercial film producer as it is to the executive producer in Hollywood — perhaps more so, since the commercial producer rarely has at his command the budget and shooting schedule alloted to even the humblest Hollywood quickie. Both time and money are usually limited in the shooting of the average 16mm. commercial, and it is intelligent production planning more than any other one element that spells the difference between profit or possible loss to the producer.

Production planning of a commercial or industrial feature should begin with the very first conferences between producer and client. Certain basic decisions must be agreed upon before even the most rudimentary script can be written, namely: how much money the client will allot for the production, and how much time will be available to produce the film. Clients are prone to underestimate both factors, with resultant strain to the producer, so it is well to get these matters settled before any elaborate production plans are made.

Once these basic decisions are settled the producer will know just how much production value he can include in his script and will instruct his writer accordingly. The writer will then know whether he can go ahead and write an epic with a "cast of thousands," or whether he'll have to hold his imagination in check.

All through the writing of the script, the producer should work very closely with the writer and director to make sure the screenplay is following the production plan agreed upon. Even veteran screenwriters, when left to their uncontrolled devices, have a way of writing the producer into a corner. They will, for example, concieve sequences that sound perfectly wonderful on paper but which would require the facilities of M-G-M to stage convincingly on the screen. Or, if they are less accustomed to the limitations of 16mm. filming, they might write in a sequence similar to one they have seen in a Disney extravagnaza—something that required a whole staff of special effects experts even for the great Walt to produce.

In order to establish a relationship between budget and production value as set down in the script, it is necessary to review the elements involved. The first factor to be considered is whether the picture is to be shot in color or black and white. Color is more effective than black and white, but it is also more costly in terms of raw stock and the extra light required for interior set-ups.

The second element to be taken into consideration is that of sound. If the picture is to be a sound film, an extra 10 to 25 per cent is automatically added to the budget. Narrated sound is usually fairly easy to negotiate, since there are any number of laboratories that provide a complete music and recording service for the small producer who does not have his own sound facilities. Direct lip-sync sound is a much more costly and difficult proposition to arrange. Outside of New York and Hollywood there are few studios that specialize in this service, and the small producer is either obliged to buy his own direct sound equipment or import a trained crew with sound truck from the nearest film center. Both alternatives are costly.

Whether the film requires a good many interior set-ups or can be staged mainly out-of-doors will have considerable influence on both the budget and shooting schedule. Interior set-ups are expensive because they require not only the rental or purchase of lighting units, but the installation (in many cases) of special lines to carry the current load. From the shooting schedule standpoint, the extra time involved in moving equipment to the location, installing power lines and setting up lights, amounts to a very substantial item.

After the shooting script has been ap-

proved, the director of the film and his assistant break it down into a shooting schedule, which is nothing more than a calendar of filming. If possible the entire script is taken apart and a definite time is set for shooting each scene. A well-planned shooting schedule can save a world of time and confusion for the production staff.

In setting up the shooting schedule, list for earliest shooting the scenes which require the least staging. In this way you will be getting a good part of your script "in the can" in the shortest possible time (always a comforting thought), and you will also have your crew busy while the elements of more complicated scenes are being assembled.

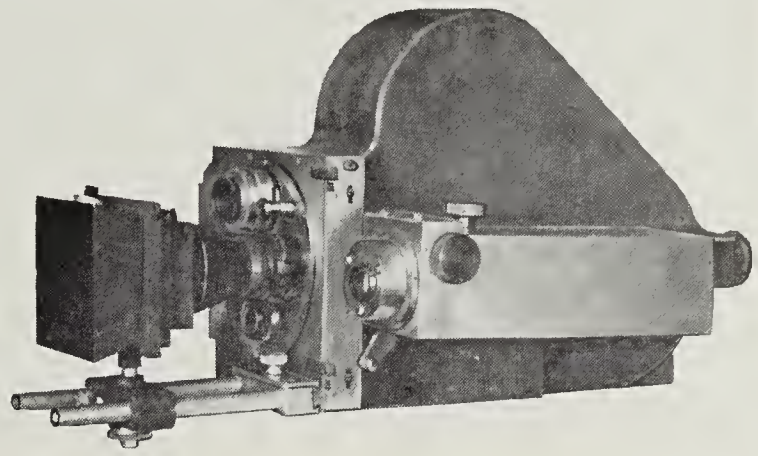
One of the first steps in setting up the shooting schedule is to go through the script very carefully and list the locations, props and personnel necessary for shooting each scene—also, any special equipment outside of that generally available which must be procured. Wheels should immediately be set in motion to secure in advance everything that will be needed for a particular day's shooting. Location sites should be scouted and selected. Special props and costumes should be arranged for. Cast and additional crew members (if required) should be lined up. Any special equipment that is necessary should be either bought or rented. In short, every detail should be arranged for in advance, so that when the time comes to shoot a particular scene there will be no possible slip-up to cause delay.

Make a careful check of all proposed interior locations to make sure that sufficient electrical current is available. For black and white filming, standard circuits frequently will do the trick, but for color filming on any substantial scale, arrangements will have to be made to secure a more powerful current. In large buildings or factories sufficient power may be obtained by tying an auxiliary cable directly into the main switchboard. The maintenance man on the premises should be called in to make this connection, since he is usually familiar with the board and its separate circuits. Where such an arrangement is not practical, it may be necessary to arrange for a special transformer or generator. In any event, all such arrangements should be made well in advance.

Props and costumes provide a problem all their own. Wherever possible these should be borrowed or rented. Quite often, however, it is necessary to make special costumes and build props. This should be done while the crew is busy shooting routine shots.

In deciding which scenes are to be filmed, several elements must be taken into consideration. As a general rule, scenes in a common locale or with the same crew members should be grouped

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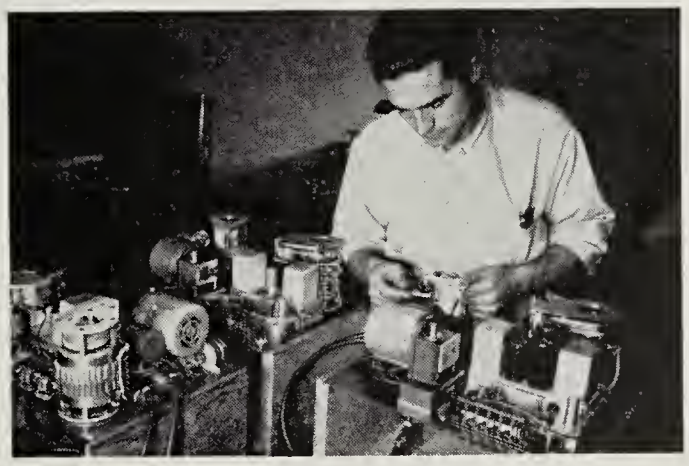
- New type intermittent for rock-steady pictures plus perfect precision registration so important for multiple exposure work. Movement cannot perforate film, is self-engaging. To thread camera, merely place film in raceway, close gate and turn camera over. Feed finger finds perforations automatically.
- Rack-over devoid of structural weaknesses. No dovetails. Permanent alignment with no adjustments. Rack-over completely sealed in camera—a boon to location use.
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Cine Kinks for Movie Amateurs

FOR TABLE TOP MOVIES of winter scenes, use moth flakes for snow. To simulate hills or rocky terrain, use crumpled paper. Before sprinkling surface with moth flakes, spray with a tacky solution consisting of diluted mucilage applied with a fly-spray gun.

•

USE YOUR TYPEWRITER TITLER for shooting ultra-closeups of flowers, insects, and other nature subjects. Simply frame your subject within the title card frame, making sure that subject is kept the same distance from lens as indicated for title cards.

•

WHEN SPLICES FAIL TO HOLD because cement is too thin (thus drying too rapidly) add a piece of film to the cement—about two frames from which emulsion has been thoroughly removed.

•

ATTACH A TWO-WAY spirit level to your tripod base to insure setting camera level each time. Levels may be purchased at small cost from hardware stores or butcher supply houses. Mount level on thin metal plate drilled to fit over tripod screw, between camera and tripod head.

•

RIGHT ANGLE PRISM FINDERS, available at most war surplus stores, make excellent finders for shooting movies unobstrusively of children or others shy of the camera. Gadget enables you to point at subject while facing away at right angle.

•

PUNCH A SMALL HOLE in the rubber cap on your camera lens to permit "breathing" and thus prevent oxidation of your lens, where camera is stored for long periods of time with lens capped.

•

TO PREVENT PROJECTOR being pulled to floor by careless feet entangling the extension cord, twist cord around table leg three times before plugging into projector.

•

NOISY PROJECTORS can be "soundproofed" by placing over them a "blimp" made of a corrugated carton of suitable size in which openings have been cut for the light beam and exhaust from lamp house.

•

AFTER USING YOUR CAMERA at the beach, at sea, or near the ocean, clean all bright trim thoroughly with carbon- tetrachloride to remove any deposits of salt spray that might permanently mar the finish.

together for shooting, even though they might be widely scattered in the actual sequence of the script. Thus, if scenes 22, 83, and 147 all take place in the same far-flung locale, it is common sense to schedule them for shooting at the same time, instead of making three separate trips to the location. While shooting in sequence might be dramatically more understandable for the actors, it is rarely as economical as grouping scenes for maximum efficiency in filming.

If the time alloted for filming the picture is limited, as is usually the case in the commercial film, it is wise to set up an alternate shooting schedule for interiors or exteriors. In this regard, weather should be the deciding factor. Exteriors should be scheduled for shooting first, weather permitting—but an alternate interior sequence should be penciled in just in case a monsoon overtakes the crew on the day scheduled for filming. With necessary prepartions for the standby sequence made in advance, the crew need only move indoors to continue shooting. In complicated sequences, always allot an extra day or two for unforeseen hold-ups, as these are almost certain to occur.

There is another factor which is often ignored, but which can raise the very devil with the shooting schedule and the ultimate delivery of the finished film, and that is the time that must be alloted for lab processing, sound recording and any other services which the producer must have done outside of his own organization. Very often the producer, knowing the working speed of his own crew, will promise the client a completed film on a certain date, only to find that delivery is delayed by an unforeseen hold-up at the lab. Know your outside services and the time schedules upon which they operate. Check to see exactly how long it takes to have a work-print made and edge-numbered, how long it takes to process original footage, how much time must be allotted for recording and re-recording. Be sure to allow time for mailing both ways to plants located outside of the city. When all these estimates have been made, add a few extra days to your estimate just for safety.

If, in the planning of the shooting schedule, it is found that certain scenes require preparation that is unduly elaborate to the effect of the scene in the finished picture, modifications should be made. Very often it is possible to revise the shooting requirements of the scene to secure the same effect with a much simpler set-up. Using a bit of originality, it is often possible to convey a feeling of great production value with staging that is really quite simple to set up.

In any event, production planning is easily worth whatever time the 16mm. commercial producer invests in it. It should be instituted as normal routine if a truly professional approach to production is desired.

NEW NORWOOD COLOR TEMPERATURE METER

(Continued from Page 85)

is quite easy to note because a relatively small movement of the light valve will cause the needle to move over quite a distance.

A color temperature meter should be readily portable. Large, ungainly devices that are cumbersome and awkard to lug around are, in general, considered to be unsatisfactory. A satisfactory device should preferably be small enough to slip into a shirt pocket. The Norwood C-T meter works on such a strikingly satisfactory principle that it is possible to make the instrument small enough to slip into a shirt pocket.

A desirable C-T meter should be moderate in cost. A reasonable cost for a color temperature meter would be about the same as for a first class type exposure meter. The design of the Norwood C-T meter is such as to facilitate quantity production procedures, with respect to run-of-the-mill cells, galvanometers, filters, and other elements of the electrical circuits. In addition, this meter does not require costly linkages and numerous moving parts. Therefore the production cost will be relatively low and the meter will sell for a very reasonable price.

The Norwood C-T meter is provided with a unique type of scale which offers some rather advantageous features. To begin with, the scale is very long for such a small instrument. The overall scale length is four inches. This long scale provides for well separated scale divisions. This makes for very easy and accurate reading of the scale. Next, the scale plate is readily demountable. It may be attached in position in just a moment. Various alternate scale plates are available.

One scale plate may be calibrated in terms of Degrees Kelvin for a useful color temperature scale, extending from 2000°K to 20,000°K.

Another scale may be calibrated in the newer color temperature units termed "Mireds." Mireds mean micro-reciprocal-degrees. A mired scale offers some important advantages. The photographically useful mired scale extends from 50 to 500 mireds. No one has to use this scale but it will be available for those who wish it.

Another scale plate which is available

is very interesting and appears to be one which will have extensive use. This scale is based on the premise that utmost simplicity of operation and most direct reading of results are important objectives. For example, suppose that a photographer is working outdoors with color film, in uncontrolled illumination. Under these conditions it is quite probable that he will have to use a filter over the camera lens in order to make the transmitted light match the characteristics of the film in the camera. What he desires then of a color temperature meter is the most direct indication of the proper filter to use under the circumstances. If translation from a Degrees Kelvin scale through tables, carried in the pocket, etc., to a final answer in terms of what filter to use, can be avoided, so much the better.

The Norwood C-T meter is equipped to provide a direct answer in terms of the appropriate correction filter. A scale plate, which may be attached to the meter, is calibrated directly in terms of filters for a given type of film. Available also is a demountable scale plate for outdoor color film, such as Kodachrome Outdoor or Ansco Color Outdoor, and Harrison filters. Operation of the meter is quite easy. The appropriate scale is snapped into position. The meter is pointed toward

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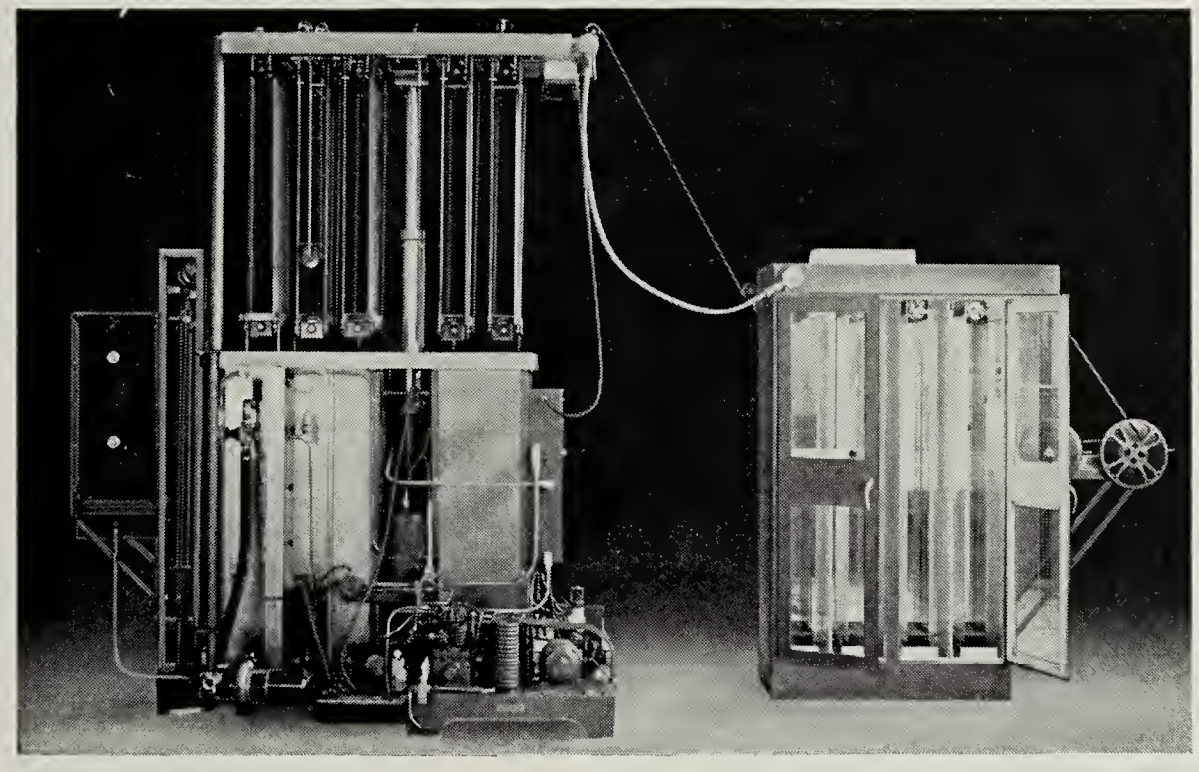
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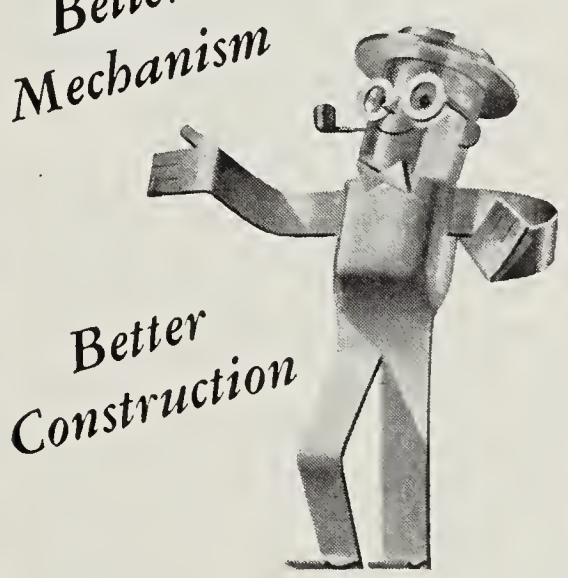
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With A.S.C. And Members

• KARL BROWN, who just returned from location in Southern Mississippi where he shot James Cruze's production, "Magnolia," moved into his new home in the Hollywood hills, which boasted a lavish photographic darkroom as one of its many features.

• FRANK B. GOOD got a breather be tween pictures when he wound up the photography on "Boy Of Flanders," which starred Jackie Coogan.

• VICTOR MILNER, who photographed the picture, was supervising the making of release prints for Fred Niblo's "Thy Name Is Woman."

• GEORGE SCHNEIDERMAN was on location in Wadsworth, Nevada, filming the Fox production, "Transcontinental Railroad."

• JAMES VAN TREES put the final scene of "Lilies Of The Field" in the can at First National and prepared to take an extended vacation.

• JACKSON ROSE was at Universal shooting "An Old Man's Darling," which starred Laura LaPlante. Previously, he had photographed P. P. Sheehan's initial production for Universal—"Innocent," a King Baggot feature.

• FRED JACKMAN received a deserving accolade from the Los Angeles Times which published an article commending his direction of the Hal Roach release, "King Of Wild Horses," photographed by his brother, Floyd Jackman.

• REGGI LYONS resumed his association with J. Stuart Blackton, with whom he had been cinematographer many years before, and started shooting Blackton's Vitagraph production, "Between Friends."

• NOTICE in the March, 1924 issue of AMERICAN CINEMATOGRAPHER stated: "A.S.C. Members are seldom at liberty. When they are, they may be reached by phoning or writing A.S.C. headquarters.

• DAN CLARK wound up the photography on "Fine And Dandy," starring Tom Mix, and began preparations immediately to shoot another Tom Mix feature, "The Trouble Shooter."

• TWENTY-FIVE YEARS AGO it was customary for the cinematographer to supervise the making of all release prints on important productions. Engaged in this activity in March, 1924, were: Arthur Edeson on Doug Fairbanks Sr's., "Thief Of Bagdad," Charles Rosher on Mary Pickford's "Dorothy Vernon of Haddon Hall," and Victor Milner on Fred Niblo's "Thy Name Is Woman."

the light source. The light valve is turned until the null reading is shown on the galvanometer. Adjacent to the rim index line will be found an indication of the proper filter to use. Very simple. An additional convenience has been provided by showing the appropriate filter factor adjacent to each filter reading on the scale plate.

Alternate scale plates are available for other makes of filters and other types of color films. The average photographer will probably be equipped with one brand of filters and likely will not make frequent changes of type of color film in his camera. Under these conditions there will be no need for frequent changes of scale plate on the meter, although such changes are very easily made when desired, as has been pointed out.

A very important feature of the Norwood C-T meter is the fact that its operation is independent of the light intensity. It is a null-reading type of instrument that functions with balanced electrical circuits. Due to this fact, variations in light intensity will not affect the meter. The meter is sensitive exclusively to changes in color temperature of illumination.

Consider what this means in studio practice. An important use of a color temperature meter in the studio is to check each light unit and achieve a proper color temperature of light radiated therefrom. With some types of color temperature meters it is necessary to go through a cycle of operations to adjust the meter to the intensity of the light before a color temperature reading can be taken. Suppose the color temperature of the light is too high. If an electrician reduces the color temperature of the light by reducing voltage or by installation of a filter, the intensity as well as the color temperature is reduced. Then the cycle of operations of that meter must be repeated. It might be necessary to run through the cycle four or five times to reach the proper color temperature for one lamp. Repeat this for each lamp, and a tedious routine is involved.

The Norwood C-T meter is quite independent of variation in light intensity. This makes it possible to present the Norwood C-T meter to the desired color temperature by simply turning the light-valve element until the desired reading shows on the scale plate. Then the meter is pointed at the studio lamp. If the light is too red or too blue that fact will be indicated on the galvanometer dial. The studio lamp is then adjusted until the null reading shows on the meter. At that time the studio lamp has the correct color temperature. It is as simple as that.

It will probably be evident to the experienced cinematographer that a great deal of careful thought has gone into the design of this Norwood C-T meter. A constant objective of the designer has been to produce an instrument that would, as nearly as possible, be ideal from the photographer's point of view. It has been made compact, rugged, accurate, free from complicated parts, simple to operate, easy to read, gives directly significant indications, and is so designed that it may be produced at a very reasonable cost.

1948 NOMINEES

(Continued from Page 81)

Joseph Valentine, A.S.C., "Joan Of Arc" (Sierra-R.K.O.),
William V. Skall, A.S.C., "Joan Of Arc" (Sierra-R.K.O.),
Winton Hoch, A.S.C., "Joan Of Arc" (Sierra-R.K.O).

"Joan Of Arc," probably one of the most extensive Technicolor motion picture undertakings in recent years, was a three-way camera asignment demanding the services of Joseph Valentine, William V. Skall and Winton Hoch. Should this picture be selected by the Academy of Motion Picture Arts and Sciences as the best in the color division, Valentine, Skall and Hoch will share equally in the award, each receiving an Oscar in recognition of their contribution in the filming of this picture.

Actually the pictures and not the men who filmed them are the contenders for the Academy Awards, but of course the directors of photography shall receive the Oscars when the final results are announced. The eleven films under consideration and listed above are currently being voted on by some 2000 members of the Academy to select the best black and white and the best color production of 1948. The winners will be announced, along with the best achievements in other branches of creative motion picture production, at the gala annual Academy Award presentation which will take place this year at the Academy's own theatre in Beverly Hills, on the night of March 24th.

The nine contending films were selected by the top directors of photography in the industry from a list of 47 films nominated by the men who filmed them. Each year each director of photography is invited to nominate one production in either or both black and white or color on which he has received single or joint screen credit. This is included on a pre-

liminary or primary ballot which is sent to each director of photography in the industry who then votes for ten or less productions in black and white and eight in color in the order of his preference. The eighteen productions thus selected are then screened by the Academy to give all directors of photography an opportunity to see these productions under the same conditions.

At the conclusion of the screenings another ballot, listing the eighteen productions, is then sent to all directors of photography who vote for five black and white and four color productions in the order of their preference. The nine productions receiving the greatest number of votes are nominated for the annual Cinematographic Achievement awards. Only Academy members participate in the final voting—the procedure now going on and which culminates in the final announcements March 24th.

Of the eleven men whose films are nominated for 1948 awards, only one—Charles B. Lang, Jr.—has graced the winner's circle in the past. That was in 1933 when he was awarded an Oscar for his photography of "Farewell To Arms."

Not a single foreign film nominee survived the finals. In the initial nominations were eleven black and white and four color foreign productions. Of these, only "Hamlet," "An Ideal Husband," and "The Red Shoes" survived the first or preliminary ballot and were listed among the eighteen films placed on the second or nominating ballot.

A full account of the winning films and the men who photographed them will appear in the April issue of American Cinematographer.

THE RED SHOES

(Continued from Page 83)

travelled to Hollywood to confer with technical experts in the science of set lighting, and returned with blueprints for an arc light that could be boosted from the usual 150 amps, to 200 amps. Even this monster lamp, however, failed to give him enough light for the effect he required.

After consultation with Mole-Richardson and Taylor Hobson Cooke, a lamp was conceived that would make a searchlight look like a pocket flashlight. It took many months to design the lamp and make the lenses, but both firms had the new unit ready by the first day of shooting. It was a 300 amp., water-cooled arc that produced a comfortable 1,200 foot-candles 100 ft. away from the subject. It contributes much to the authentic ballet atmosphere of the staging.

The new 225 amp. Mole-Richardson

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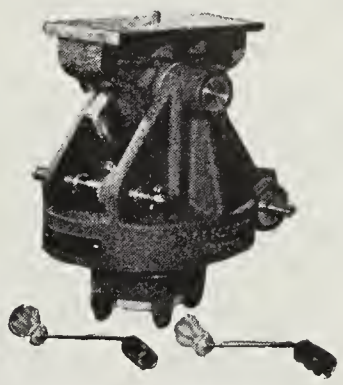
FRICTION TYPE

Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with motor and 400′ magazine; and all 16mm. hand-held cameras. Head is interchangeable with the Gear Drive head. Both types fit "Professional Junior" standard tripod base, "Hi-Hat" and "Baby" all-metal tripod base.



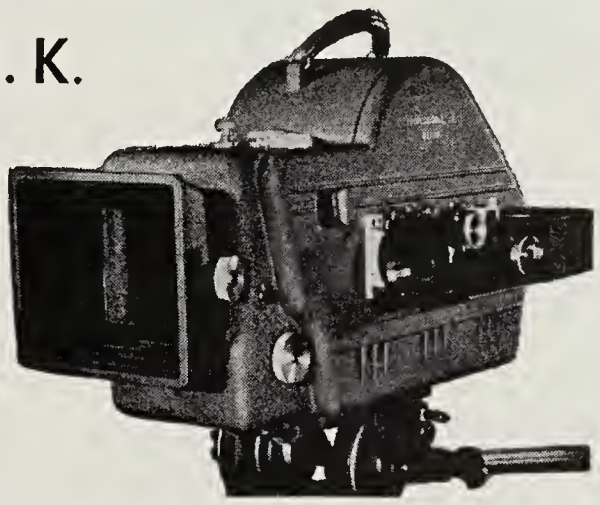
GEAR DRIVE

The head, made of Dow Metal magnesium, weighs but 5½ lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap-on metal cranks control pan and tilt action from both sides. Worm-driven gears are Gov't spec. bronze.

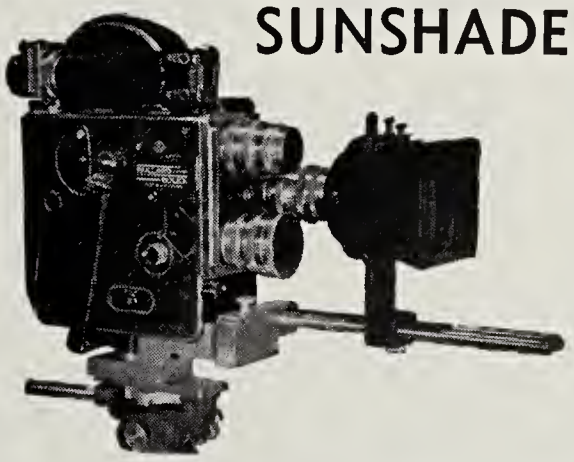


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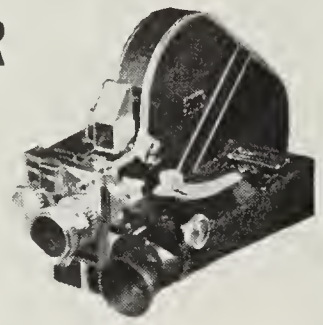
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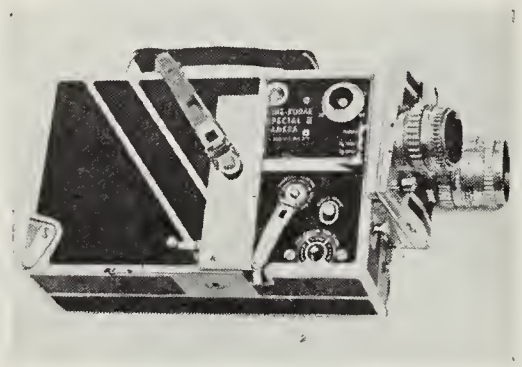
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"Brute" was another important item in the staging of the ballets for "The Red Shoes." Cardiff managed to obtain two of these in Hollywood and had them flown to England just in time for the filming of the dances. These big arcs could cover the entire corps-de-ballet in one clear source of light, and still produce a Technicolor light level.

Several very unusual special effects were devised especially for the ballet sequence, and some were adaptations of previously accepted techniques.

One of the most effective transitions, that of the full stage changing from day to night, was done by dissolving five separate background paintings. The "dance of exhaustion" was shot straight at normal speed against a series of planned continuous transparent screens hung with cellophane. The whole emotional effect was produced by the movement of the dancer.

In one sequence huge transparent leaves swirl down around the dancer. This was shot at varying speeds, none higher than fifty-six frames a second. The cellophane falling leaves were released by hundreds of invisible wires. The set itself was composed by arranging transparent screens.

The effect of the huge shadows of the Shoemaker's hands menacing the dancer was achieved by using two 25 amp. brutes with the condenser lens replaced by a sheet of plain glass.

The striking effect of the dancer soaring through a changing surrealistic landscape was gained through the use of the "Gunnshot" procress, developed in England by George Gunn of Technicolor. The setting was created through the use of painted backings of cellophane sheets, cellophane foregrounds and chemical effects produced in water. The dancer was super-imposed by Gunn's traveling matte process.

One very effective sequence is that in which a pile of newspapers on the ground begins to swirl and dance until it assumes the outline of a figure which suddenly changes into a man. This newspaper dance was shot at varying speeds. For example, one continuous shot started at eight frames a second and finished at thirty-two. The newspaper figure was constructed by the trick department and hung on wires puppet fashion so that it could be rehearsed to the music. The effect of the figure changing into the dancer and vice versa was done by cutting at the exact frame, tests having shown that dissolves were too slow. This dance ends with the dancer leaping at 48 frames which changes to 24 as he touches the ground.

An especially effective shot is that which is filmed from the back of the stage out toward the audience, with roaring waves filling the auditorium. This was a straight double exposure of the studio set, a painting, and a real shot of the sea made at Cornwall. Footlights on the stage were partly practical and partly painted. This must have been a very difficult shot to balance.

Even the smallest cut was shot to a playback of the complete musical score, and it was as much the precision of the dancers as that of the technicians that made the sequence possible.

While the "Red Shoes" ballet is the dramatic and visual climax of the film, it is only a small part of the picture's 2½ hour length. The film contains many other excellent sequences filmed on location in Monte Carlo, Paris and other exotic spots. The beautiful settings and wonderful mood lighting are a perfect complement to an intriguing dramatic story. For Jack Cardiff it was a "cameraman's dream," embracing the warm scenic beauty of the Cote D'Azur, the splendor of first nights in European capitals, the hard work and play and squabbles of an international ballet company. For the audience it is a rare clinematic experience.

A. S. C.'s RESEARCH FOR TELEVISION

(Continued from Page 86)

of this relatively strange new instrument of photography. Inevitably there will be some who will prefer to pursue this phase of television work rather than the making of films for television.

It is, of course, the motion picture industry's repeated affirmation to enter the field of TV film production on a large scale that prompts the Society's interest in pursuing research now. For if the studios ultimately undertake to supply television with films especially made for the medium, the photography will become one of the most important factors contributing to such films' success. Obviously directors of photography would be derelict in their duty not to give the prospect their immediate attention.

Substantiating the view that the motion picture industry is vitally interested in production of films for video is the recent announcement that National Broadcasting Company heads had engaged in "exploratory" discusions with Warner Brothers on the production of special films for telecasting by the network.

William Paley, of C.B.S., was subsequently reported ready to lead the Co-

lumbia Broadcasting System into the active participation of television film production. Hunt Stromberg has already made sample films and is negotiating with Edward Small for a video releasing arrangement. Other producers, reported ready to release special made TV films are Boris Morris, Samuel Bronsten and Allen Kent. These are just a few of Hollywood's feature film producers making motions in this direction. The town is full of small independents making movies for television ranging from one-minute spot commercial announcements to feature-length films.

It was to be expected that there would be a rush of individuals and newly-formed producing companies to get into TV film production "on the ground floor." But many have made the mistake of rushing in blindly, failing to first analyze television's peculiar needs as regards films, with the result that today many of these hasty film productions are gathering dust on the producer's shelves.

When the studios undertake making films expressly for television, they will want to be sure their product is technically perfect at least, and toward this end directors of photography, through the American Society of Cinematographers, have taken steps to provide the correct type of photography for such films, when

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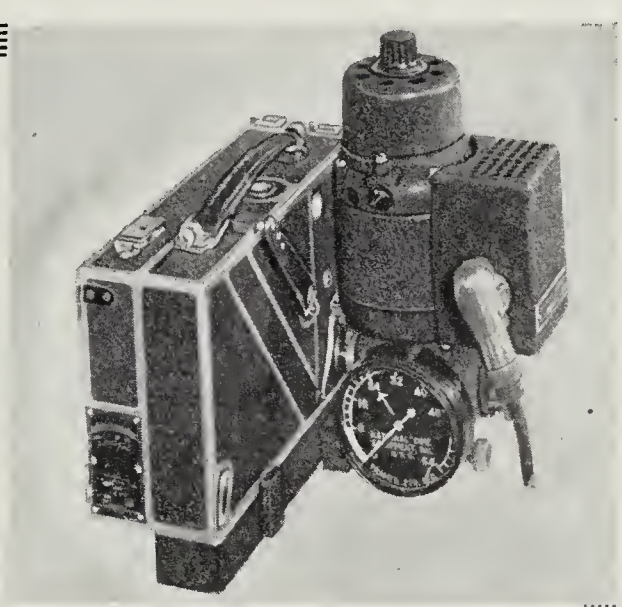
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Below: Maurer Camera with Variable Speed Motor and Tachometer.



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and if called upon to do so. And as candidates for live show television cameramen, members of the A. S. C., given reasonable training in the fundamentals of electronics, are especially qualified by reason of their long and specialized experience in studio set lighting and camera techniques. Both the television and motion picture industries, we are sure, will be glad to know of the forthright and constructive action which the Society is presently undertaking.

NEW LENS TESTING METHOD

(Continued from Page 88)

trace of light on an oscilloscope.

"By using a microscope as a camera lens, the tiniest image detail can be magnified to a size so large as to occupy the whole kinescope screen, or to produce large, accurate traces on the oscilloscope. The light sensitivity of the image orthicon camera tube permits instantaneous observation and measurement of detail response beyond that of the best camera lenses, and even of lower-power microscope objectives.

"The trace on the oscilloscope can be calibrated quickly, easily, and accurately by focusing on the photosurface of the television pickup tube a measured amount of light sufficient to cancel one of the dark lines in the kinescope image.

"A general method has been worked out for measuring and plotting the detail response of lenses, film, and television image devices in the form of curves showing all values of detail response from zero to the limiting resolution, and for various angles and colors of light.

"A simple method is also provided for finding the overall response of systems in which several imaging processes occur, such as a motion picture process involving camera lens, film, and projection lens, or an even more complicated television process where a scene may be picked up by a camera lens, transformed into an electrical image by a television picture tube, limited in resolution by an electrical channel, reconstructed as an optical image by a kinescope, and projected by an optical lens to a viewing screen."

CINEMATOGRAPHER'S PLACE IN TELEVISION

(Continued from Page 87)

been a newsreel cameraman and photographer of commercial films when I decided to get into television. Filming football games with a newsreel camera had been my forte, so it was natural that I should be interested in watching the local

(Continued on Page 104)

off the KINESCOPE *tube...*

LEW O'CONNELL, A.S.C. after thoroughly exploring the "one-minute" commercial field, is producing a series of spot announcement films for a Los Angeles dog food manufacturer. Enterprise is O'Connell's own in which he produces the films completely, photographing, editing, titling them as well as recording the sound for same.

★

KLAC-TV will install kinescope recording equipment this month, to be readied for regular operation beginning April 1st.

★

COL. NATHAN LEVINSON, of Warner Brothers, is developing improved type of mobile kinescope unit that will have special shock absorbing equipment, enabling unit to be transported anywhere. Equipment will enable station to record daytime events on the spot for delayed telecast in the evening.

★

TELEVISION will give the motion picture industry its greatest impetus since the advent of sound said Spyros Skouras recently, citing that theatre TV is inevitable.

★

KINESCOPE recording equipment was installed early in February in NBC's television station KNBH in Hollywood. The equipment will make it possible for station to record on film the programs presented by KNBH for later presentation by other NBC stations.

★

BELL TELEPHONE'S base rate for a television channel between two cities is reported at $35.00 per month per airline mile for eight consecutive hours per day. Charge for station connections in each city are $500 per month per station.

★

FEATURE FILMS MADE IN future primarily for television, says Samuel Goldwyn, will differ chiefly in technique variation. There will be greater emphasis on story values, a return to lustier, broader type of acting, pacing will be more rapid and running time will be limited to one hour.

★

PHILADELPHIA is reported first city to place censorship restrictions on all motion pictures for television in that city. Regulation is being fought by local TV stations.

★

A PORTABLE TELEVISION screen has been developed that can be detached from the set and carried into another room.

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BOOKS you'll want to read...

ELECTRON-OPTICS, *by Paul Hatschek. American Photographic Publishing Co., $3.50.*

When this book was written in 1935-36, electron-optics was in its infancy, although it had already made it possible to build a number of remarkable devices, such as for example the kinescope tubes for television, etc. The author's purpose was to present fundamentals of this science in a simplified form so its mysteries could be revealed to a wide audience of readers who had no previous acquaintance with the subject. The book is a must for students of television. In short it is a textbook of the fundamentals of electronics written in plain language. Its 180 pages are profusely illustrated with photos and understandable diagrams.

•

PHOTOGRAPHIC EMULSION TECHNIQUE, *by T. Thorne Baker, F.R.P.S. American Photographic Publishing Co., Boston. $7.50.*

This book covers the full gamut of science and production of photographic emulsions and deals with the subject from the beginning to present day methods and experiments. The book is intended not only as a guide for practical emulsion making, but as a textbook for technical students, industrial chemists, and photographers generally who may wish, for some special reason, to prepare photographic emulsions of a special type to suit their needs. Generously illustrated, the book's 340 pages will provide a valuable fund of knowledge and data for both amateur and professional, as well as the scientist.

•

FILMS IN BUSINESS AND INDUSTRY, *by Henry Clay Gipson. McGraw-Hill Book Co., $4.00.*

This book is a timely guide to modern practices in the use and production of non-theatrical motion pictures and slidefilms. Generously illustrated and containing many case histories, the volume discusses the various ways in which films can be profitably applied to business, personnel training, advertising of products and services, promoting safety campaigns, etc. To anyone contemplating the production of such films, it gives valuable and helpful guidance.

The special sections devoted to the use of films in television and related fields, make the book of unusual interest to those engaged in television film production.

BETTER COLOR MOVIES, *by Fred Bond. Camera Craft Publishing Co., $5.00.*

The author of the now famous "Westward How," comprehensive photographic guide to the West, now brings the color movie enthusiast the benefit of his years of study and experience in working exclusively with color; beginning with color movies more than fifteen years ago when Kodachrome film was first introduced. The book is devoted to all the more common problems of the amateur movie maker. Its 156 pages is abundantly illustrated with both black and white and color photos and helpful charts. It deals with color cinematography and lighting, both indoors and out; the calculation of exposure; night photography; color continuity, etc. A real must for every cinematographer, professional as well as amateur.

•

BRITISH FILM INDUSTRY YEAR BOOK, *edited by John Sullivan. Film Press, Ltd., London, England.* An unusually comprehensive information volume which includes such data as British feature films completed in 1947; British studios and personnel; text of workers' contract agreements; roster of actors and actresses; alphabetical listing of technicians, etc. Listings of players and personnel includes recent credits.

•

PRINCIPLES OF STEREOSCOPY, *by Herbert C. McCay. American Photographic Publishing Co., $5.00.*

The author, a popular writer on many photographic subjects, from years of experience tells enough of the theory to give a complete grasp of the principles involved. He then proceeds to give detailed directions for each of the steps required to make successful stereograms. The book's 190 pages are amply illustrated with pictures and diagrams. Its 19 chapters cover every phase of the art from elementary stereography to practical stereo technique, and goes on to cover special proceses and applications.

Writer McKay knows his subject well and has covered it fully and comprehensively. His aim was to give the beginner guidance which will enable him to derive utmost benefit from the art; and he has succeeded well.

grid games on television. The camera work on the first game I chanced to see on a television receiver convinced me there was opportunity for an experienced newsreel man to improve the quality of TV coverage of grid games, so I decided to look into it. I applied for the job at KLAC-TV in Hollywood, was accepted, and after a brief schooling in the electronics phase of television camera work, was sent out to cover one of the west's important football games without ever having photographed with a TV camera.

One of the excellent features of a TV camera that a cinematographer notices first is the electronic viewfinder, which enables him to see the scene exactly as it is picked by his camera lens. This is directly in back of the camera and with the studio RCA cameras the hood is hinged so that the finder may easily be used with the camera set at various heights. The camera has a rotary four-lens turret and usually comes equipped with three Ektar lenses of various focal lengths, ranging from 50mm. to 135mm. The turret is rotated by turning a knob at back of the camera. The lenses are focused by operating a lever on the side of the camera that moves the pickup tube toward or away from the camera lens. Of course, there is a preliminary focusing of the lens that takes place before shooting begins and with some cameras the lens diaphragms are locked in position, once the desired stop is established.

Once the TV camera is on the air, it remains on during the entire interval of the broadcast. This means the cameraman is operating the camera every minute. The director of the program relays his instructions to the cameraman by intercom and there is a red light that glows inside the viewfinder to indicate when the camera is cut into the main channel and its pickup is actually going out on the air—this, where two or more cameras are focused on a scene or remote event such as a football game. Back in the control room, the results of the TV cameras are channeled to their respective monitors. Here the electronics engineer or program director watches each monitor and intercuts the various camera pickups to provide an interplay of camera angles from long shot to closeup, as the script or his judgment demands.

Obviously it is impossible for the TV cameraman to follow a script or cue sheet, so the program director does it for him, sending instructions for changing camera angle or lens over the intercom.

My most interesting remote assignment was photographing the USC-Notre Dame football game last year at the Los Angeles Coliseum, with KLAC's television cameraman Arch Griffin on the other camera. There are always two or more cameras photographing a television event, indoors or out. The important thing the

TV cameraman must develop is the ability to work smoothly with his teammate; to know his technique, how he thinks and to anticipate not only his next move but that of the program director. In no other field of photography is this so important. Smooth teamwork is a prime requisite.

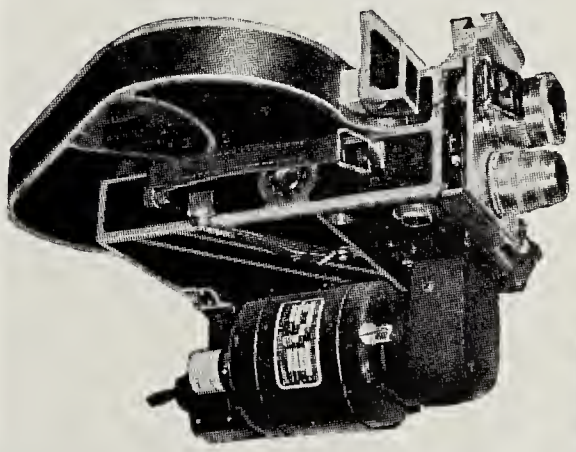
In the matter of lighting studio broadcasts, I think that KLAC-TV is the first to thoroughly explore the application of motion picture lighting techniques. Working closely with lighting technicians in the motion picture industry, they have engaged one of Hollywood's top flight lighting engineers. Typical motion picture studio lighting equipment has been brought in, along with dimmer banks and other lighting controls, and for the first time in the history of West Coast television, KLAC-TV is giving its audiences real motion picture lighting on its live broadcasts.

One important motion picture technique we hope to develop more thoroughly here is the "reverse shot," in which one TV camera virtually shoots against the other, with one camera concealed behind a screen or flat with a camouflaged opening for the lens. This innovation—for television, at least—was introduced recently by one New York TV station and only proves again that there are many cinematic techniques which also are suitable for TV photography, and will be introduced as more and more cinematographers come into television either as cameraman or as consultants.

The qualities necessary for a good television cameraman are many, but I think the most important are: that he be as nimble as a cat, have the memory of an elephant, and the ability to anticipate action like a mongoose. The successful television cameraman will be a new breed, combining these physical characteristics with a wide knowledge or experience in motion picture photography, a keen ear for sound, and, if possible, some electronics experience. Moreover, I believe that many of television's directors of the future are to be found within the ranks of Hollywoods cinematographers who are especially qualified for the job by virtue of their specialized training in motion picture production.

I recall a prophetic incident that occurred to me several years ago when I was a motion picture cameraman in the army. I had met David Sarnoff by chance and we got to talking about cinematography and its relation to the future of television. Mr. Sarnoff said that every motion picture cameraman should look forward to the advent of commercial television and advised me to get into it. I didn't realize at the time the significance of his words; but here I am today, working behind a television camera. And I think that shortly we shall see other cinematographers filling a similar role.

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FIRELIGHT THAT'S REAL

(Continued from Page 84)

of an array of twenty-four 1000- or 2000-watt lamps suspended at various heights before a curved metal reflector, about three by four feet in size. Each of the lamps is made to flicker off and on at intervals by the flasher, which is similar in principle to an electric sign flasher. A multi-wire cable extends from the flasher to the reflector and feeds the lamps.

Figure 3. shows a top view of the flasher. In the immediate foreground is the revolving cylinder with twenty-four contact points which touch the cylinder and excite 24 solenoids which in turn send current momentarily to the lamps. The order, frequency and duration of light flashes is governed by the area of the cylinder left exposed to each of the contact points. This can be altered as required, depending on the type of firelight desired. And there are quite a number of variations, as Gregg Toland found out after considerable study and observation of fires of various types.

As the cylinder rotates, the points are made to break, causing the momentary flash of the various lamps. Because the unit can be varied in frequency, speed and intensity, any type of firelight can be simulated by the turn of a dial, and the lights themselves dimmed or brightened for any lens opening. In "Wuthering Heights" the unit was employed to create the illusion of light from the huge log fireplaces in the Georgian interiors, and for "Enchantment" the steadier and softer illumination of an English coal-grate. For "Roseanna McCoy," the mechanism is adjusted to imitate the pine-knot fires so popular in the Kentucky mountains.

The circuits leading to the lamps are first sent through a dimmer bank, which permits lowering or raising the intensity of the flashing lamps. Other means are used to vary the effect such as altering the interval of flash, altering the location of the flash from first one side of the reflector then the other, and also the bank of lamps is often divided into two alternating levels of light intensity to give further realism to the firelight flicker.

Where the effect of firelight only is desired on the set, that is—where the fireplace or fire does not actually appear in the scene—the light from the large multiple-lamped reflectors is usually cast into the scene from off stage, upon the background or perhaps upon the player's faces. Frequently a mirror is used to reflect this light into certain parts of the set.

The frequency and intensity of flicker may also be varied to suit the dramatic situation. Thus the right firelight can heighten the effect for intensely dramatic shots, or it may be subdued—the contrast between shadows and light lessened—for a more somber mood, a slower pace.

We saw another version of this lighting gadget in use on the "Roseanna McCoy" cabin set on the Goldwyn sound stage. In this instance the camera faced the fireplace; so the flasher-lamps—much smaller this time—were carefully hidden among the prop coals in the fireplace grate—and their effect augmented by real flame fed by jets of gas.

Sometime later, in the projection room, we saw the photographic result of the shots made on this set. It was not difficult for anyone who has experienced repose beside a warm, dancing fire at dusk to appreciate the realism which Garmes injected into those scenes. And we are sure that Gregg Toland, too, would have been happy with the result.

SYNCHRONIZED SOUND FOR HOME MOVIES

(Continued from Page 91)

fects where needed, etc. Notes made at the time the film is shot will help put the sounds where they belong. Backgrounds and sound effects may be obtained from regular disc type records.

A complete package is being offered in Sears, Roebuck and Co. mail order and retail stores which contains the required accessories to synchronize any silent projector to a Silvertone wire recorder. This package also contains four 12 inch vinyl sound effects records, an illustrated instruction booklet and a convenient storage album. It sells for $14.95 in Sears' retail stores and $13.95 plus postage by mail order.

While primarily developed for use with Sears Roebuck's Silvertone wire recorder, it can also be used with any other make wire recorder which winds the wire in a slot in the rim of the turntable and has a turntable speed of 78 R.P.M. (same speed as for playing standard disc records).

To make sound movies by this method you need a projector, a wire recorder, and a synchronizing kit. Set up the projector and screen in the usual manner. Place the wire recorder to the right or left of the projector, depending upon whether you are right or left handed.

The kit contains two mirrors and brackets. One is placed at a corner of the screen in such a way as to pick up some

of the light projected onto the screen. It has a clamp for screens having a square cross piece at the top. With some screens it may be necessary to notch the cross piece, or drill a small hole to provide a good attachment of this mirror. Adjust the mirror to reffect light from the screen back to the recorder. The second mirror is then set in a screw-in fitting located near the recorder turntable.

Place the synchronizing disc on the recorder turntable. With the projector running adjust the mirror on the screen to reffect light to the mirror on the recorder. Adjust the mirror on the recorder so it reflects this light onto the stroboscope disc. There are two sides to the disc, A and B. Both sides are calibrated for projectors operating at 16 frames per second, but inasmuch as all projectors do not have the same type shutters—some are two-blade, some three-blade, etc—the disc has a stroboscope on both sides. The segments on one side are calibrated for projectors having a shutter providing 1 or 3 interruptions per frame, while those on the opposite side are calibrated for use with projectors giving a 2 or 4 interruption shutter action. Unless you know the type shutter on your projector, it will be necessary for you to first make a test run with the stroboscope disc in place, in order to determine which side is to be used.

To do this, place the disc on the recorder turntable, with or without the recording wire threaded for use, then start projector and recorder and adjust mirrors until the reflected light is seen falling on the stroboscope disc. Adjust the projector speed control until the white lines or segments in the stroboscope disc appear to remain fixed. If, despite adjustment of the projector speed control, the segments cannot be made to appear motionless but tend to travel to the right or to the left, then turn the disc over and repeat the speed adjustment. One side or the other will be found to be correct, and when you determine which side is the one to use with your projector, mark it plainly for future reference.

Assuming that the film has been edited, the leader "cued," and a script prepared, thread the projector, load the wire recorder and make ready to record. Check mirrors again for focusing. Have the script, helpers, 'sound effects man' and others participating, ready.

Start the projector and watch for the three dots to flash on the screen. When the 'Go' flash appears, start the recorder and quickly adjust the speed control on the projector until the strobo disc segments appear to stand still, same as when you made the check above. Start the sound part as soon as the recorder starts and avoid dead spots. Then go right ahead with the script.

When you are through, rewind both wire and film. Then reload recorder, and rethread the projector. Start the projector, watch those 'cues,' start the recorder on playback, and bring the projector into synchronism as before. Then sit back and watch how those silent films come to life. The participants will get a bang out of it too. If you secure good sound results on the first try—fine. If not, just do it over. You can reuse recording wire indefinitely and when a recording is made, whatever is on the wire may be automatically erased, so it's no problem to do it over. In fact you will end up by doing it anyway because you will invariably see improvements that you can make. The wire required for each film can be cut off the main spool and wound on a spare so it may be kept with the reel of film.

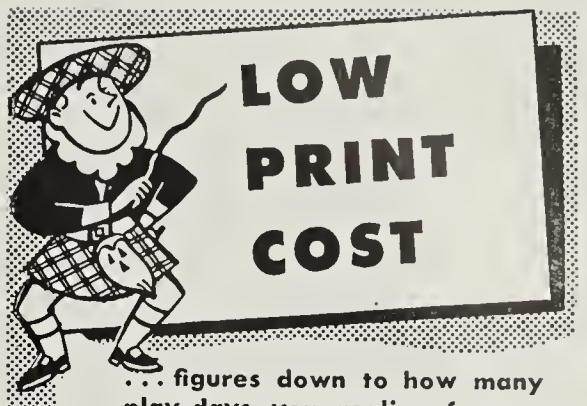
Once you try this new, easy method of recording sound, the usual run of silent films will seem dull by comparison. The use of the wire recorder in this manner is practical and economical, especially since the wire can be reused without loss. The wire recorder also has an advantage over other types of recording because it will record or playback for as long as one hour without interruption.

AMATEUR WITH PROFESSIONAL IDEAS

(Continued from Page 92)

ally scouts around among his neighbors and friends for players, casting his characters according to their personalities and appearance, or their ability to furnish some particular, hard-to-find costume or props. Nobody gets paid for acting and Maker already has established quite a stable of "stock" players, whom he can usually call upon to portray featured roles in his pictures. These include an artist, an Oakland newspaperman, a special police officer, a dress shop owner, a Berkeley, Calif., mailman, and two housewives whose acting abilities may someday attract the roving eye of a Hollywood talent scout.

What makes movie making so appealing to Maker is that every picture supplies an outlet for his wide range of talents. He wouldn't be satisfied merely to set up, focus and shoot his camera; he wants the fun of not only writing the story, but of personally scouting all exterior locations, selecting wardrobe and costumes and of personally building any props he is unable to locate already made. *(Cont'd on Pg. 108)*



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The highlight of "Dark Timber," his latest film, of course, was the project of making the miniature logging train and of staging the several sequences in miniature, including the hazardous scene in which the train is blown up while traveling over a wooden trestle. Maker constructed a scale working model of the old Shay engine in his garage, along with a number of flat cars. The gears from four egg beaters served as part of the engine mechanism.

A small railroad trestle and tracks were built in a rock quarry in the hills behind Oakland, and carefully blended in with the terrain so they would appear full size running through regular size mountain country. Behind the engine came flat cars loaded with fake logs, made from tree limbs appropriately cut and scarred. At the quarry rim, another trestle had been built for the explosion scene. It was here that the villian of the story was to dynamite the tracks and blow up the opposition's train as it tried to move out its logs. A mouse trap tripped just before the explosion, catapulated a miniature figure of the villian from the engine cab in convincing fashion.

Maker says there was pretty close to $10,000 worth of equipment at the scene when the explosion sequence was filmed. Extras doubled as firemen, when not before the camera, and stood around with water buckets in the event of fire. Two pounds of black powder was discharged electrically as the brave engine chugged along the trestle. Maker was on the quarry floor shooting up with a telephoto lens as the tracks blew up and the train plunged into the canyon below, looking pretty much as it would in real life. The shot was perfect. It had to be. There was only one miniature train and Maker could hardly be expected to have a double on hand, just in case things went wrong.

Maker shot the entire picture using his Auricon single system sound camera, for which he has built a special blimp. Later he dubbed in sound and background music supplied by Maker's Studios' own amateur musicians playing together as an orchestra.

Maker estimates it takes about four months to shoot one of his photoplay films and that the cost averages about $400.00 per picture. He is reimbursed for this by renting his films out to clubs and lodges at a straight $15.00 fee. With this small return, he buys more film and makes more pictures.

Among Maker's outstanding productions are such titles as : "Lem The Specialist," a Chic Sale type of comedy; "Six Gun Saga"; "The Death Ray," a gruesome thing Maker finally had to restrict; "West of the Brazos," "Call of The Mounties" and "The Devil's Kitchen." This last one satisfied that urge in Maker that might have made him a Robert Montgomery or Orson Welles. It was the story of a journey to hell—tops artistically, but hard on the audience.

"Dark Timber," sneak previewed in Oakland recently, is currently undergoing some revision and re-takes. Maker hopes to bring it to Hollywood for its premiere showing sometime in April.

BULLETIN BOARD

(Continued from Page 76)

WILLIAM SNYDER, A. S. C., was unintentionally omitted from the list of Academy Award nominees which appeared on page 42 of our February issue. Snyder photographed Columbia's Technicolor production "The Loves Of Carmen" which is among the final four contenders in the color division for a cinematographic achievement award in that division.

Also omitted in the February listing were the names of William V. Skall, A.S.C. and Winton Hoch, A.S.C. who should have been listed along with Joseph Valentine, A.S.C., as co-photographers of "Joan Of Arc," also a nominee for an Academy Award for color photography.

●

MITCHELL CAMERA'S public relations man, Rudy Stolz, has pointed out an error in our story last month, describing a cameraman's use of twin-Mitchell '16' cameras in filming the Rose Bowl game, citing it was a Mitchell tripod that was used with the camera, not a 'Professional Jr.'

●

LEN ROOS, A.S.C., is taking his Hallen magnetic recorder to New York where it will be demonstrated before Eastern TV and film producers at the Barbazon-Plaza hotel March 8th.

●

JANUARY-FEBRUARY issue of DuPont's house magazine "Better Living," features a two page picture spread pointing up the important film productions made during past 20 years on which DuPont film was used exclusively. Each of the 20 productions was photographed by a member of the A.S.C.

●

RECENT HOLLYWOOD visitors include Jack Draper, of Mexico City, and Jack Coote, noted color expert of England. Draper is undertaking a 16mm. production in Mexico. Coote, with his associates, are developing a new color process for use by English studios.

CURRENT ASSIGNMENTS OF A. S. C. MEMBERS

(Continued from Page 78)

Paramount (Cont'd)

• LEO TOVER, "My Friend Irma," (Hal Wallis Prodn.) with Marie Wilson, John Lund, Diana Lynn, and Don DeFore. George Marshall, director.

20th Century-Fox

• RUSSELL HARLAN, "I Was A Male War Bride," with Cary Grant, Ann Sheridan, William Chellee. Howard Hawks, director.

• JOSEPH LASHELLE, "Come To The Stable," with Loretta Young, Celeste Holm and Elsa Lanchester. Henry Koster, director.

• MILTON KRASNER, "East Side Story," (title later changed to "House Of Strangers") with Richard Conte, Susan Hayward and Edward G. Robinson. Joseph Mankiewicz, director.

• HARRY JACKSON, "Oh You Beautiful Doll," (Technicolor) with Mark Stevens, June Haver, Gale Robbins, S. Z. Sakall and Charlotte Greenwood. John Stahl, director.

• JOSEPH LASHELLE, "Everybody Does It," with Linda Darnell, Celeste Holm, Paul Douglas and Charles Coburn. Edmound Goulding, director.

United Artists

• LIONEL LINDON, "Twilight," (Strand Prodn.) with Laraine Day, Dane Clark, Franchot Tone and Agnes Moorhead. Irving Pichel, director.

Universal-International

• FRANK PLANER, "Take One False Step," with William Powell, Shelly Winters and Marsha Hunt. Chester Erskine, director.

• WILLIAM DANIELS, "The Western Story," with Yvonne DeCarlo, Charles Coburn, Scott Brady and John Russell. Frederick de Cordova, director.

• RUSSELL METTY, "Curtain Call At Cactus Creek," with Donald O'Connor, Eve Arden, Vincent Price, Gale Storm and Walter Brennan. Charles Lamont, director.

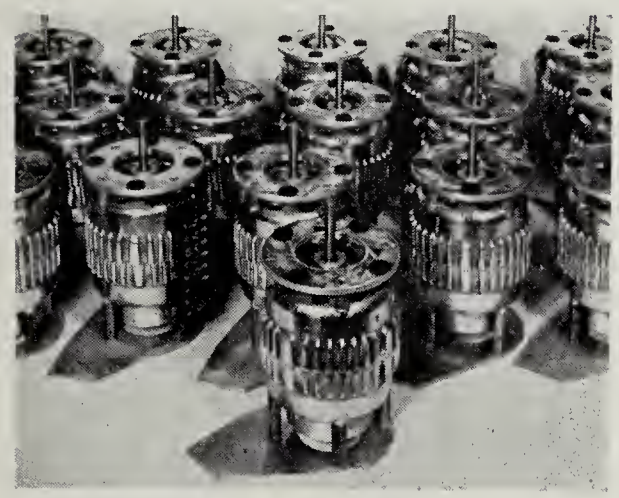
• IRVING GLASSBERG, "Sword In The Desert," with Marta Toren, Stephen McNally and Paul Christian. George Sherman, director.

WHAT'S NEW

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B&H's New 8mm. Projector

Bell & Howell Company has announced its new 8mm. "Filmo Regent" projector. Priced at $149.50, the "Regent" has many new features including 400 ft. film capacity, single frame projection, 500-W prealigned lamp, and a 1" f/1.6 lens. New projector operates on AC current only.



Precision-built motors

The Hallen Corp., Burbank, Calif., has installed very latest type precision testing equipment for checking speed of synchronous motors and other parts of the Hallen synchronous magnetic recorders which record magnetically on oxide-coated film 17½mm. in width. Motors, which are of special design, insure absolute constant speed of 90 feet per minute, according to Len Roos, A.S.C., president of the corporation.

Mitchell '16' Reduced

Mitchell Camera Corp., Glendale, California announces that price of the Mitchell '16' professional camera has been reduced several hundred dollars, citing improved production methods as enabling them to pass benefits on to the purchaser.

New S.O.S. Catalog

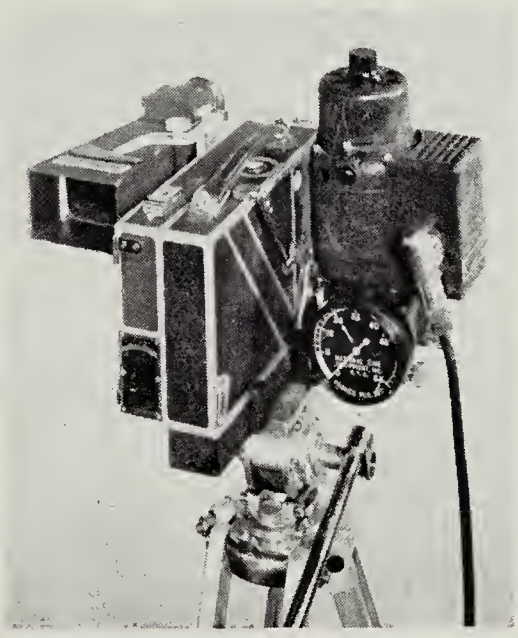
A new 64-page catalog covering every phase of motion picture theatre operation has been issued by S.O.S. Cinema Supply Corp., New York. Over 100 illustrations distributed throughout the book alongside text make it simple to order the wanted part or item. Sections are devoted to equipment for photography, portable and home movies, 16mm. and 35mm. projection, and for stage, studio and recording laboratory needs.

Automatic Dissolve

Joseph Yolo, Hollywood, Calif., announces a new improved model of the Yolo automatic dissolve for Cine Special cameras. Device is more compact, smoother working and may now be attached instantly to any Cine Special camera. Dissolve device enables camera operator to produce smooth fades and more professional-like dissolves automatically with the Cine Special camera.

Matched Lenses

American Bolex Co., New York City, announces a set of matched Kern lenses for the Bolex H-16 (16mm.) motion picture camera. Three lenses—a Kern Switar 1" f/1.4, a Kern Yvar 3" f/2.5 and a Kern Yvar 15mm. f/2.8 are all coated lenses, controlled by precise manufacture and test to insure that pictures made with one lens at a given diaphragm stop will match those made at the same setting with either of the other lenses. A feature of the Switar lens is the ingenious and easy-to-read depth-of-field guage. Focusing scale ranges from 1½ ft. to infinity. All three lenses have "C" mounts for use with other 16mm. cameras.



Vari-speed camera motors

A tachometer for indicating a range of speeds from 8 to 50 f.p.s. is the unique feature of a new variable speed camera motor being marketed by National Cine Equipment Co., New York. Motors may be supplied with bases to fit the Maurer and Cine Special cameras. Motor available in 12-v DC, speed 8-50 frames; 115-v AC, 60 cycle, synchronous, single phase, or 220-v AC 60 cycle, 3 phase, synchronous.



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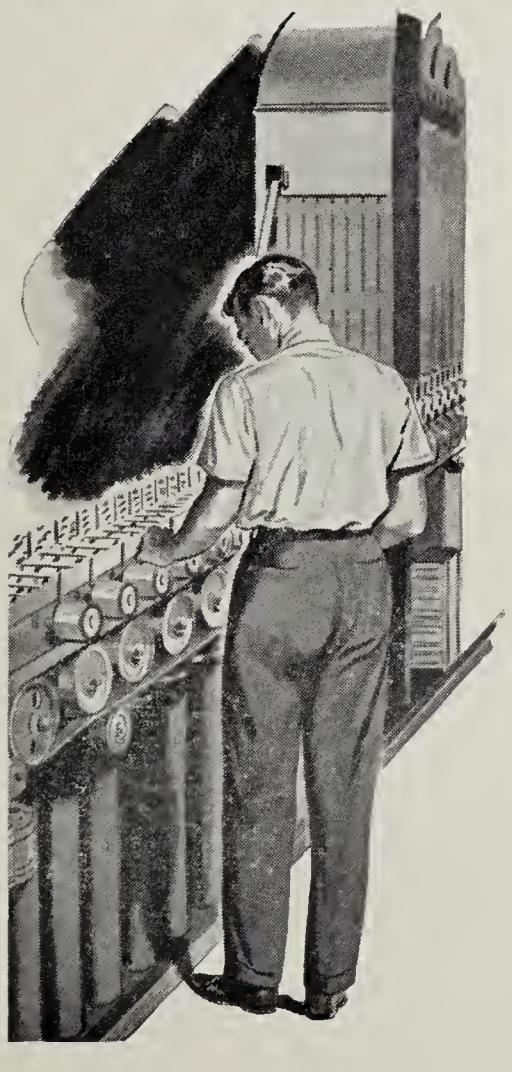
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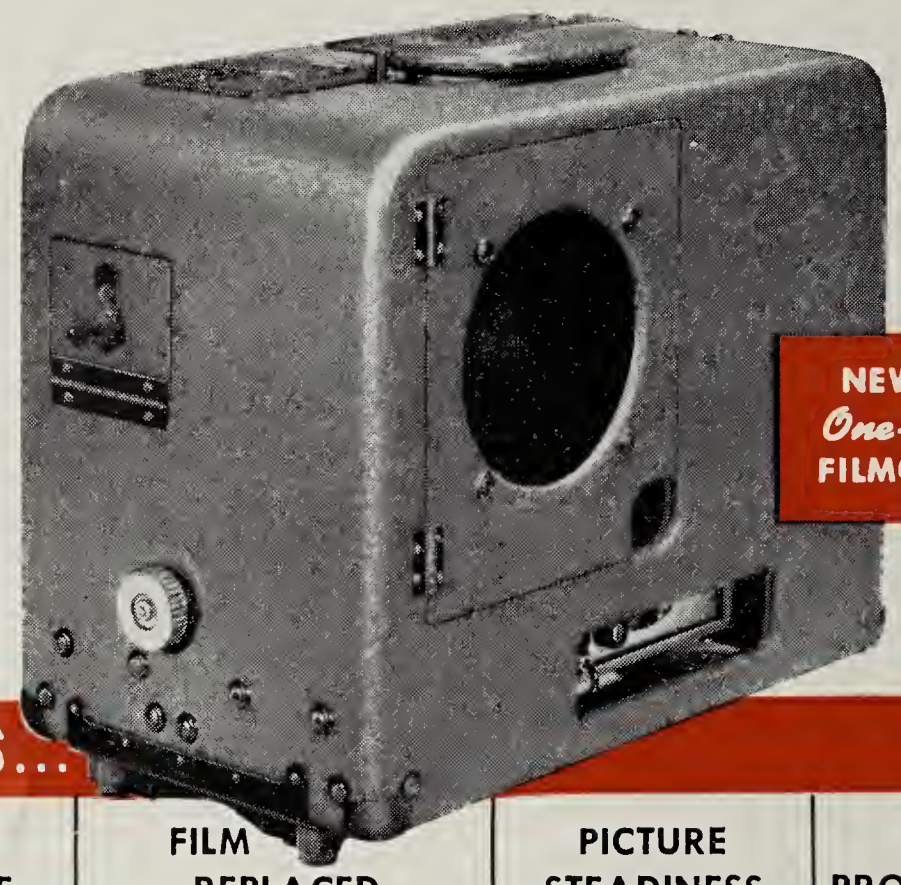
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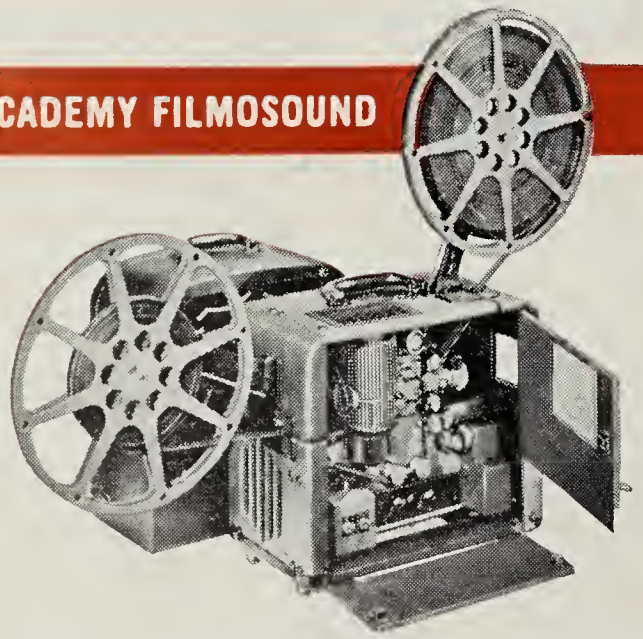
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PROJECTOR "D"	Twice (Major)	15 times	7 times	Very Unsteady	Poor**
PROJECTOR "E"	Twice (Major)	6 times	3 times	Unsteady	Fairly Good**
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** Ratings indicate condition of film relative to scratches and wear.*
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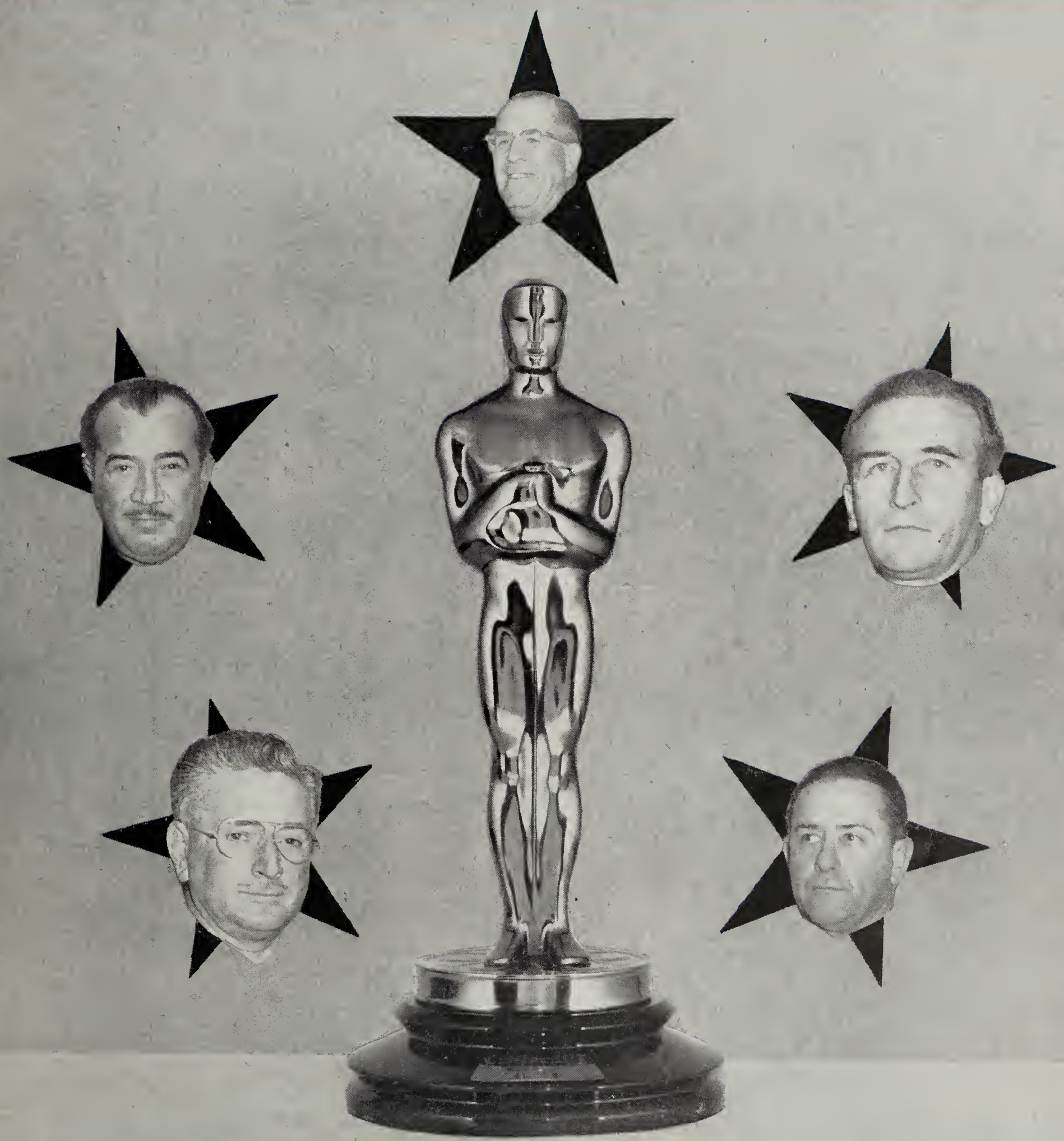
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APRIL
1949

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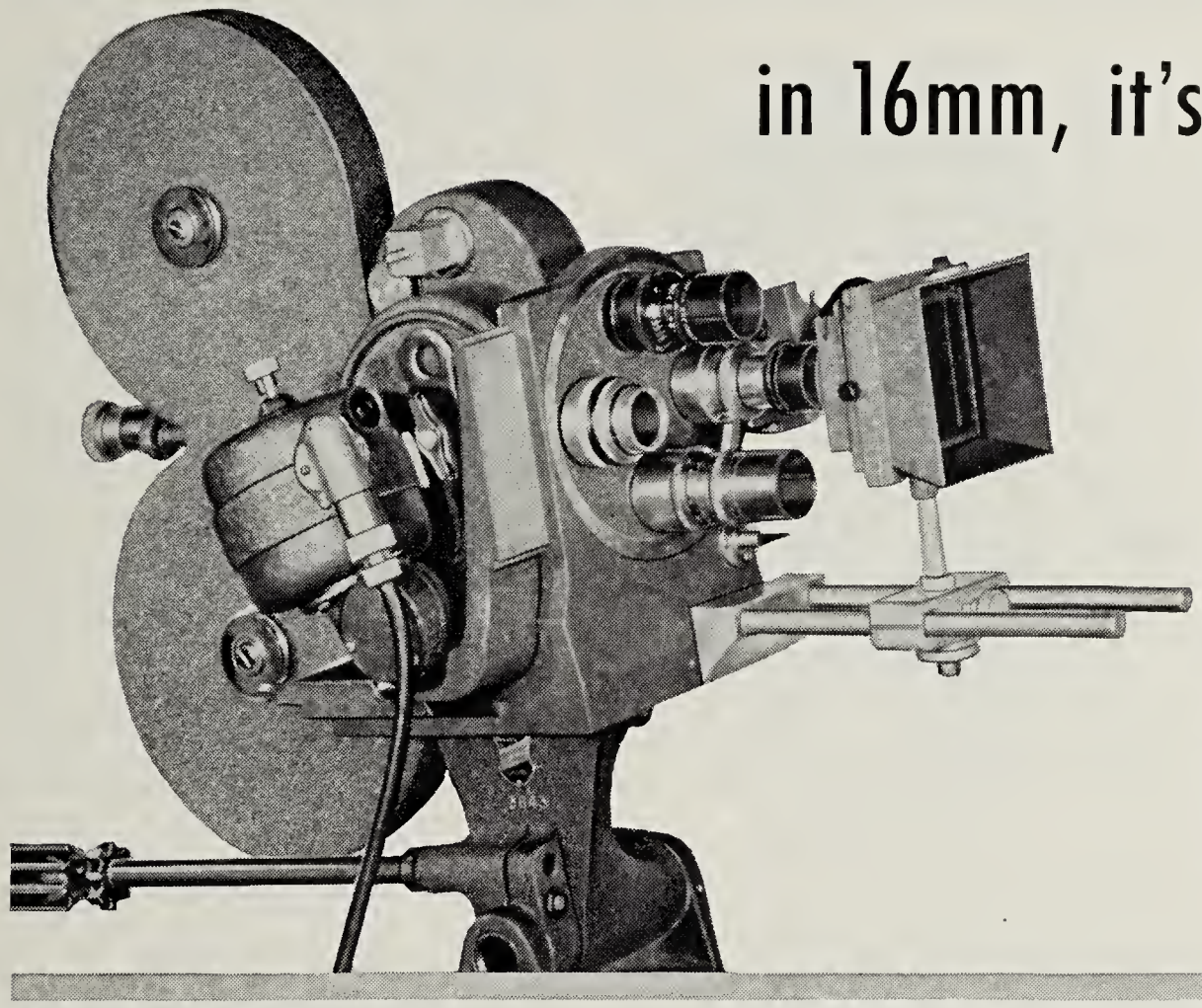
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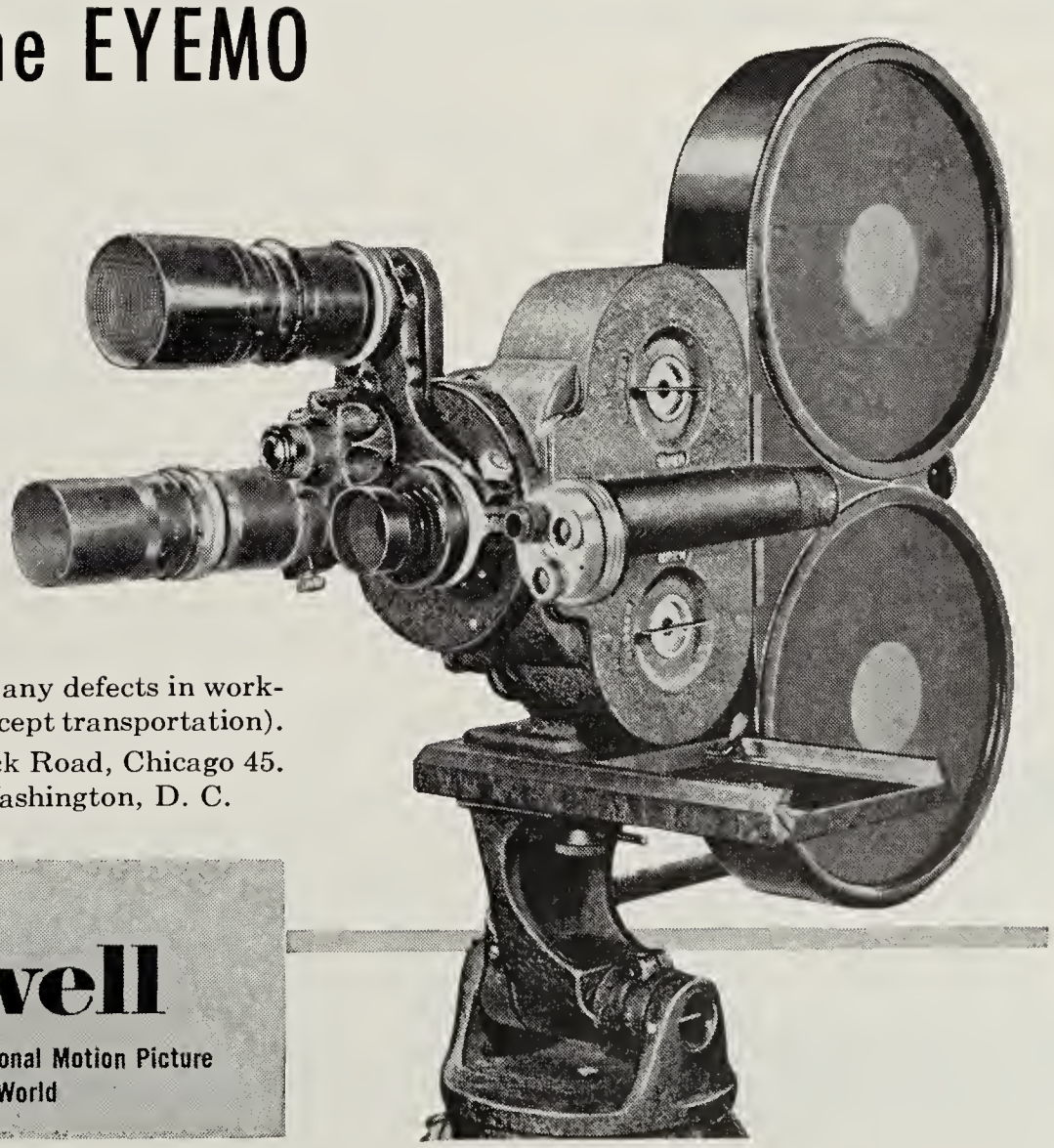


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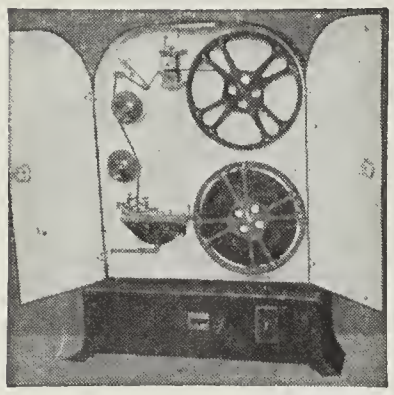
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Hollywood Bulletin Board



Look Award Winner

RUSSELL HARLAN, A.S.C. may have missed an Academy Award for his photography of "Red River" but he was compensated for the loss, in part at least, by the Look Magazine Annual Movie Award.

Harlan, while in Europe filming "I Was A Male War Bride" for 20th Century-Fox, failed to receive the Academy announcements and nomination entry blanks mailed to him, with the result that his fine picture was not a contender for a 1948 Academy Award on any of the ballots.

Look Magazine, which polls its readers annually for opinions on the best pictures of the year and for best achievement in all branches of the art, including cinematography, selected "Red River" for best photography.

Harlan subsequently received the award, a handsome engraved plaque, but was unable to be present at the presentation ceremonies which each year are presided over by Bob Hope of radio.

Harlan is considered one of the foremost cinematographers of western stories. As a former cowboy in Arizona and Texas, Harlan acquired a substantial western background and a natural love for wild, western scenery which he so aptly translates to his cinematic compositions.

The March issue of Look Magazine, commenting on Harlan's cinematography, states, "As director of photography on "Red River," Russell Harlan filmed one of the greatest westerns since "The Covered Wagon." His feeling for space and sunlight, and the pictorial excitement of his magnificient trail herd and stampede scenes win for him the Look Achievement Award for cinematography."

●

Y. FRANK FREEMAN, vice-president of Paramount Pictures, Inc., and Charles Bracket and Billy Wilder, writers and co-producers of many hit films were guests of the A. S. C. at the Society's monthly meeting March 7th. Freeman who submitted to numerous questions, following his main talk, predicted the foreign situation would improve and return to near-normal in two years. He also suggested an all-industry conference between studios and unions as a probable answer to present production problems. "Certainly, such a conference would help reach mutual understandings and result in increased employment," Mr. Freeman declared.

●

THE A.S.C.'s new projection booth, which is to be formally dedicated this month, will also provide for 16mm. film programs. The Society has acquired a Bell & Howell 16mm. Auditorium sound projector which has been installed alongside the RCA-Brenkert 35mm. projectors in the booth adjacent to the clubhouse. These facilities will enable the Society not only to screen televsion and commercial film productions, but to include in its screen programs, some of the outstanding 16mm. films produced by amateurs.

●

CHARLES G. CLARKE, A.S.C., is in Borneo shooting background material for Twentieth Century-Fox's forthcoming production, "Three Came Home." The assignment will take about three weeks. Upon his return home, Clarke goes to Germany where he will shoot a picture for Fox.

●

LEN ROOS, A.S.C., has resigned from the presidency of the Hallen Corporation, makers of Hallen synchronous magnetic tape recorders. Plans for the future are undetermined, he said.

●

PETER MOLE, A.S.C., president of Mole-Richardson Company, is Europe-bound. He will visit England, France, Switzerland and Italy, sizing up the current production situation there and confer with the company's various European plant heads. He will be gone three months.

(Continued on Page 148)

. . . Oscars and incentive

IT IS QUITE LIKELY that in spite of the controversy that followed the annual Academy Awards presentations this year, the traditional Oscars will continue to be awarded annually as in the past. And this is a good thing—good for the motion picture industry, its artists and craftsmen, and the Academy.

Without the incentive that goes with striving for and winning an Oscar, we doubt that the motion picture as an entertainment medium would have reached the pinnacle of popular appeal it enjoys today. Shorn of recognition for artistic perfection, it is quite likely that pictures today would be produced on an assembly-line basis, with the commercial side of the business dominating its activities and its destiny.

In the department of photography, at least, the annual Academy Awards are a genuine inspiration to the directors of photography within the A. S. C. Should the industry ever make the unwise decision to withdraw its support, resulting in abandonment of the Academy, the A. S. C. in all probability would establish its own annual awards for achievement in photography. The recent addition of modern, fully equipped projection facilities to the A. S. C. clubhouse in Hollywood could make such a decision feasible at any time.

—A. E. G.

★

★

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EDITORIAL ADVISORY BOARD: Fred W. Jackman, A.S.C., John Arnold, A.S.C. Arthur Edeson, A.S.C., Lee Garmes, A.S.C., Charles Rosher, A.S.C., Leon Shamroy, A.S.C., Fred Gage, A.S.C., Dr. J. S. Watson, A.S.C., Dr. L. A. Jones, A.S.C., Dr. C. E. K. Mees, A.S.C., Dr. V. B. Sease, A. S. C., Col. Nathan Levinson.

Editorial and Business Office: 1782 N. Orange Dr., Hollywood 28, Calif.
Telephone: GRanite 2135

VOL. 30 APRIL • 1949 NO. 4

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ON THE COVER

THE FIVE A. S. C. members who received Oscars this year for achievement in cinematography are, reading clockwise from bottom left: William Daniels, for black and white photography, "The Naked City;" Joseph Valentine, for color photography, "Joan Of Arc;" Paul Eagler, for collaboration in special effects photography, "Portrait Of Jennie;" Winton Hoch, for color photography, "Joan Of Arc;" and William Skall, for color photography, "Joan Of Arc."

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1949 by A. S. C. Agency, Inc. AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.

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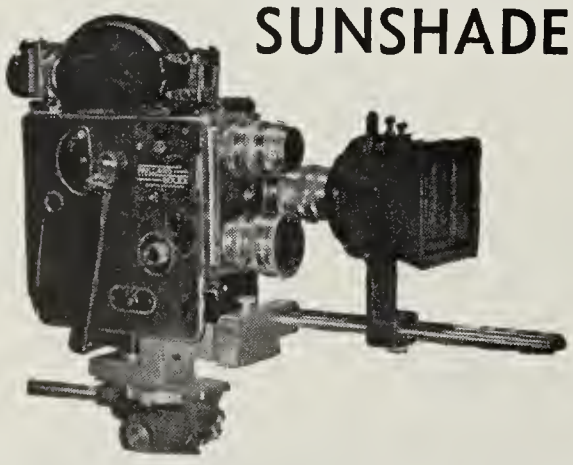
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CURRENT ASSIGNMENTS OF A.S.C. MEMBERS

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

★ ★ ★ ★ ★ ★ ★ ★

Columbia

• CHARLES LAWTON, JR., "Tokyo Joe," (Santana Prodn.) with Humphrey Bogart, Florence Marley, Alexander Knox, Sessue Hayakawa. Stuart Heisler, director.

• CHARLES LAWTON JR., "Miss Grant Takes Richmond," with Lucille Ball, William Holden, Janis Carter and Gloria Henry. Lloyd Bacon, director.

• IRA MORGAN, "Barbary Pirate," with Donald Woods, Trudy Marshall, Lenore Aubert and John Dehner. Lew Sanders, director.

Independent

• HENRY FREULICH, "Not Wanted," (Emerald-Film Classics) with Sally Forest, Leo Penn, Dorothy Adams, Rita Lupino. Elmer Clifton, director.

• GILBERT WARRENTON, "Alimony," (Orbit-Equity-E-L) with Martha Vickers, John Beal and Hilary Brooke. Alfred Zeisler, director.

M-G-M

• ROBERT PLANCK, "Madam Bovary," with Jennifer Jones, Louis Jordan, James Mason and Van Heflin. Vincent Minnelli, director.

• JOE RUTTENBERG, "Forsyte Saga," with Greer Garson, Errol Flynn, Walter Pidgeon, Robert Young and Janet Leigh. Compton Bennett, director.

• ROBERT SURTEES, "That Midnight Kiss," with Kathryn Grayson, Mario Lanza, Jose Iturbi and Keenan Wynn.

• PAUL VOGEL, "Scene Of The Crime," with Van Johnson, Gloria DeHaven, Tom Drake and Arlene Dahl. Ray Rowland, director.

• GEORGE FOLSEY, "Operation Malaya," with Spencer Tracy, James Stewart, Lionel Barrymore, Sydney Greenstreet, John Hodiak and Gilbert Roland. Richard Thorpe, director.

• HARRY STRADLING, "Intruder In The Dust," with Claude Jarman, Jr., Clarence Brown, director.

• CHARLES ROSHER, "The Red Danube," with Walter Pidgeon, Peter Lawford, Ethel Barrymore, Janet Leigh and Angela Lansbury. George Sidney, director.

Monogram

• WILLIAM SICKNER, "Joe Palooka In The Return Bout," with Joe Kirkwood, Leon Errol, Elyse Knox and Sheila Ryan. Reginald LeBorg, director.

• HARRY NEUMANN, "Mark Of The Whip," with Whip Wilson, Andy Clyde, and Reno Brown. Ray Taylor, director.

• WILLIAM SICKNER, "Leave It To Henry," with Raymond Walburn, May Stuart, Gary Gray. Jean Yarborough, director.

Paramount

• DANIEL FAPP, "Red, Hot and Blue," with Betty Hutton, Victor Mature, June Havoc and William Demarest. John Farrow, director.

• CHARLES LANG, "Rope Of Sand," (Hal Wallis Prodn.) with Burt Lancaster, Paul

(Continued on Page 147)

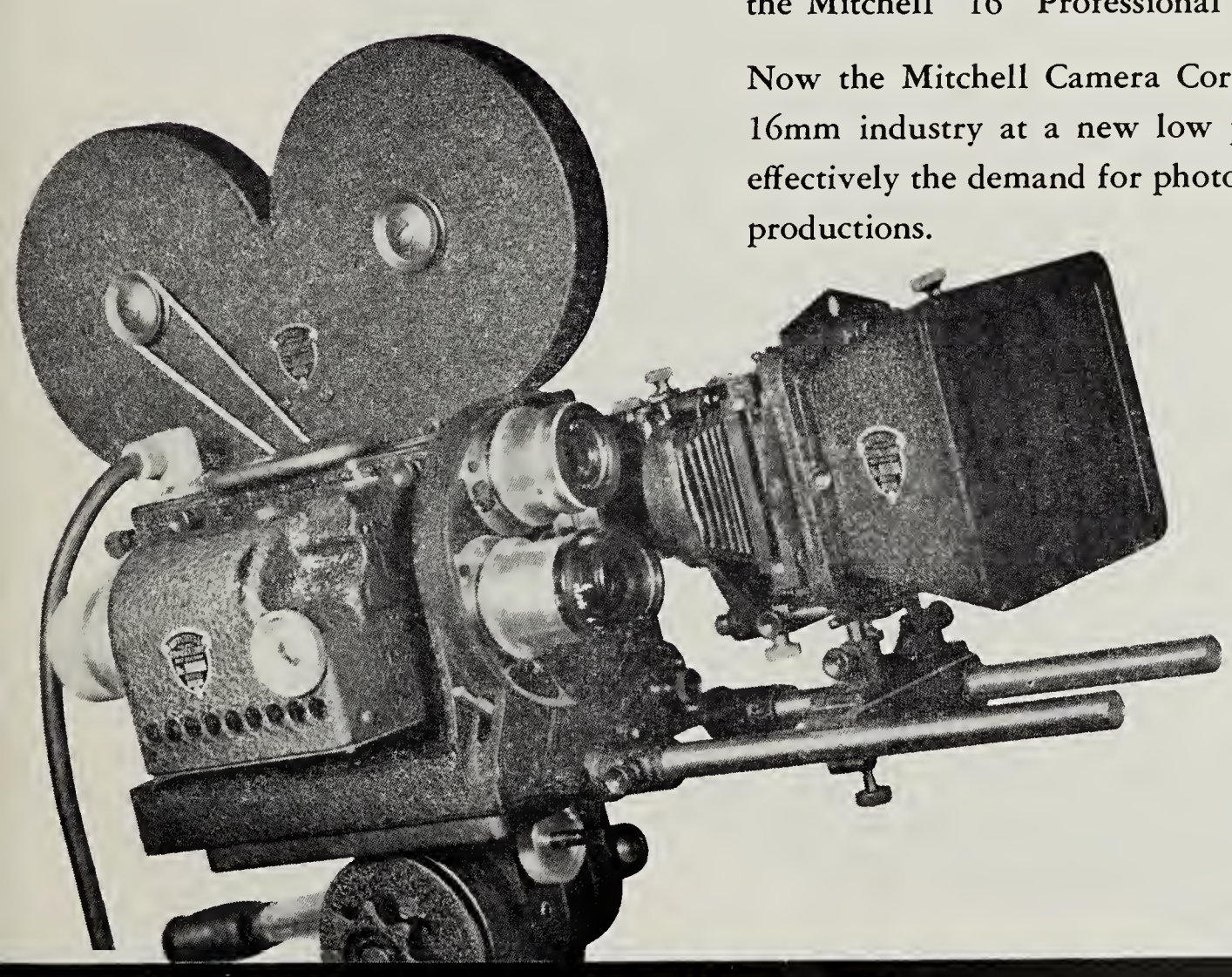
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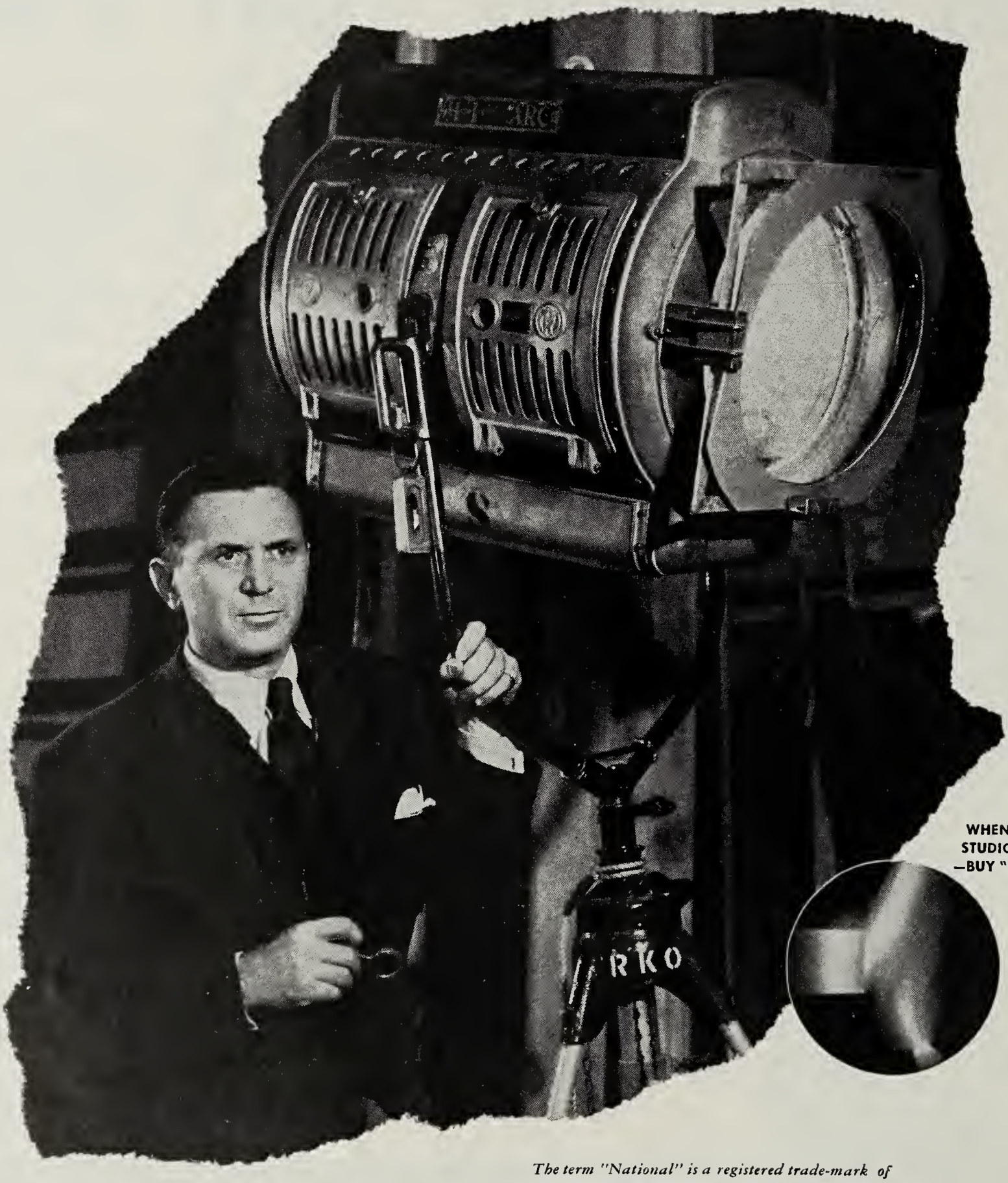
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BLACK AND WHITE—Screen star Robert Ryan (right) presents William Daniels, A.S.C., with "Oscar" awarded him for achievement in black and white photography in the Mark Hellinger production, "Naked City."



COLOR—Robert Ryan also presented "Oscars" to (L to R) Joseph Valentine, A.S.C., William Skall, A.S.C., and Winton Hoch, A.S.C., who collaborated on the Technicolor photography of the Sierra-RKO production, "Joan of Arc," starring Ingrid Bergman. "Oscars" are first won by each man, although all three have been contenders before.

1948

ACADEMY AWARDS...

for cinematography

By ARTHUR GAVIN



SPECIAL EFFECTS—Paul Eagler, A.S.C. (center), and Clarence Slifer (left) and Russell Sherman were presented "Oscars" for outstanding special effects photography in the Selznick production, "Portrait of Jennie." Eagler also has been a contender before.

THE RESULT of the voting on 1948 technical and achievement awards by some 2000 members of the Academy of Motion Picture Arts and Sciences put gleaming gold Oscar statuettes in the hands of five members of the American Society of Cinematographers the night of March 24th, when the Academy staged its 21st annual Awards Presentation Ceremonies in Beverly Hills. It was the first time that so many A.S.C. members were thus honored in a single presentation.

William Daniels, A.S.C. received this year's award for best black and white cinematography in recognition of his excellent photographic work on the Mark Hellinger production, "Naked City."

Joseph Valentine, A.S.C., William Skall, A.S.C., and Winton Hoch, A.S.C. who collaborated on the Technicolor photography of "Joan Of Arc," each received an Oscar in recognition of their individual contributions.

Paul Eagler, A.S.C., received an Oscar award for best achievement in special effects, along with Clarence Slifer and Russell Sherman with whom he collaborated in the special effects photography for "Portrait Of Jennie."

It is the first time that any of these A.S.C. members have received an Academy Award, although all have had pictures nominated for the award in the past or have been associated with former award winners before the Academy be-

(Continued on Page 136)

Technicolor Photography Under Water

By JAMES HOUSLER

Charles Rosher, A.S.C., used unique camera tank in shooting underwater scenes for MGM's latest water ballet.



TO CAPTURE unusual underwater shots for the aqua ballet sequence of MGM's "Neptune's Daughter," Charles Rosher (in colored trunks) mounted his Technicolor camera within a steel tank. The elevator, on which he and his assistants stand, was then lowered about 18 inches into the pool to bring the camera lens below water level.

THERE are some unique underwater shots in MGM's forthcoming Technicolor production, "Neptune's Daughter," that were photographed by Charles Rosher, A.S.C., and his camera crew clad in bathing trunks. Rosher and his assistants never once got wet above the knees. The camera was submerged, but it was well protected by a water-tight steel tank while Rosher controlled its operation from above.

The water ballet, featuring the aquatic prowess of star Esther Williams and a corps of 50 pulchritudinous aquaballerinas, underwent long and careful preparation. All the while Rosher was shooting interiors and exteriors for the rest of the picture, MGM dance director Jack Donohue was rehearsing the bevy of bathing beauties—all expert swimmers and divers—in the tropical setting of the luxurious pool on stage 30. When Rosher had all the other scenes for the picture out of the way, he moved his Technicolor camera to stage 30 where Donohue was ready to put his water ballet numbers before the camera in a session that required ten days of intensified filming.

Marking the water spectacle sequences are unusual underwater shots of the girls as they execute new and colorful routines created especially for the picture by Donohue. On the screen the camera shows the ballet from pool-side camera positions, then reveals the colorful routines from a fish-eye view underwater.

To execute these remarkable underwater shots in Technicolor, Rosher employed two unique pieces of equipment developed by MGM's camera department under the guidance of John Arnold, A.S.C. The first is a gigantic combination camera crane and elevator which affords unparalleled vertical travel shots, mid-air dolly shots and use of the camera from practically any position between floor and ceiling without need

(Continued on Page 149)



ROSHER (right foreground) and his assistants make the Technicolor camera fast within the tank preparatory to shooting the underwater scenes.



JOE RUTTENBERG, A.S.C. (right), listens to Charlie Rosher explain principle of his fish bowl gimmick for obtaining underwater light readings.



"DOWN To The Sea In Ships" has many dramatic moments, but none more exciting than when a whale upsets one of the boats, throwing its occupants into the angry sea. Joe MacDonald's lighting here is dramatic and authentic.



MacDONALD'S simple but effective lighting style is well demonstrated in this scene—typical of the lighting throughout the picture. His lighting treatment of every interior affords a worthwhile study of modern, forceful set illumination.

Sound Stage Seafarer

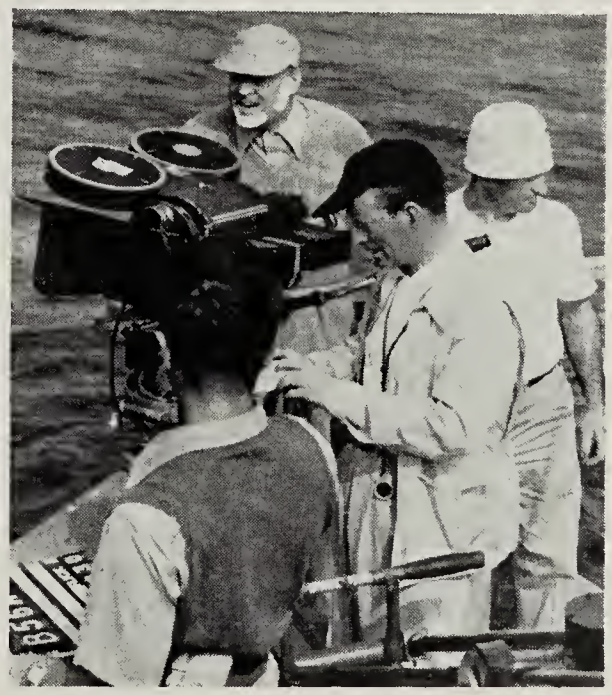
Joe MacDonald, A.S.C., shooting most of "Down To The Sea In Ships" indoors and on the lot, has captured in unparalleled photography all the realism of authentic sea action.

By HERB A. LIGHTMAN

"DOWN TO THE SEA IN SHIPS" is a film full of salt and sea-spray. There's a nautical air to it and a blow-the-man-down quality that gives it a completely authentic atmosphere. To the average filmgoer it will surely seem that this picture could only have been made by sending a full cast and crew out on the briny. Yet, except for a very few bridging long shots, the entire picture was filmed inside the sound stages of Twentieth Century-Fox.

To be even more exact, it would be right to say that the bulk of the action was shot on a single sound stage that housed a full-sized replica of the whaling ship, *Pride of Bedford.* One hundred twenty-five feet long and weighing 45 tons, the ship was built on a cradle geared to hydraulic lifts, so that it could be made to roll and sway in realistic duplication of the movement of the waves.

A completely masculine story of life and raw emotion aboard a whaler, "Down to the Sea in Ships" draws its sweeping visual scope mainly from the perfectly keyed photography of cinematographer Joe MacDonald, A.S.C. If ever camerawork could be said to have the tang of the sea clinging to it, the expression certainly fits the photography in this film. It portrays the various and changing moods of the sea itself—the harshly brilliant quality of sunlight reflected from a calm surf, the flat, raw feel of a squally day at sea, and the unworldly ghostlike mood of suspense that goes with an ocean full of fog and icebergs.



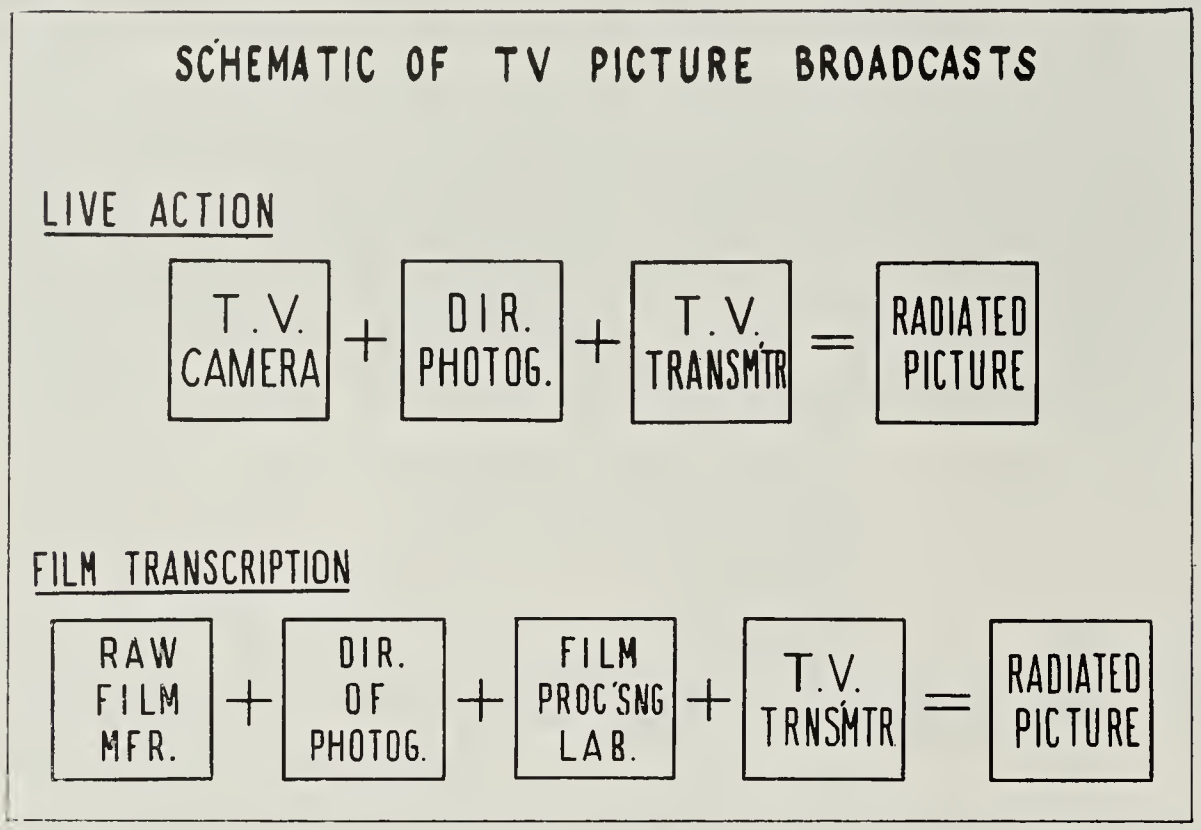
JOE MacDONALD, A.S.C. (in dark cap), claims no magic formulas in his photography. He likes simplicity on the screen and aims for clean quality in his camerawork.

When the visual treatment of the film was being planned, it was thought that it would be necessary to divide the ship replica into six separate segments, which would afford greater camera mobility and the photographing of scenes from different angles in front of the huge 35-foot process screen, against which was projected backgrounds of sea and sky. Director of photography MacDonld did not favor this alternative because he knew that it would prevent him from showing long shots embracing the full deck of the ship —and he knew also that without such scenes the film would lack the realism of life aboard ship and would instead smack of the sound stage.

The problem was mainly one of time, a costly commodity in terms of current budgets. The ship could be placed on a movable base easily enough, thus permitting it to be swung around to achieve any angle desired by the cinematographer. However, the time involved in executing this maneuver after every scene or two would soon add up to costly delay. MacDonald went into a pow-wow with director Henry Hathaway and the two of them worked out the shooting schedule

(Continued on Page 142)

Television Photography
SECTION



ABOVE diagram shows how the image on a TV receiver is result of function of several inter-dependent variables common to both live action and film transcription telecasts. The director of photography represents the single humanistic variable common to both.

Directors Of Photography Report On Television Research

Improved photographic quality of television films aim of A. S. C. research committee.

By JOHN FORBES

RENDERING its first report, since the group was organized last February, the Television Research Committee of the American Society of Cinematographers at its last monthly meeting outlined a program looking toward the quantative evaluation of television photographic standards and urged its membership to accept responsibility for the direction of such a program.

"As a preliminary to the defining of this program," said Victor Milner, A.S.C., who rendered the report, "it is recommended that representatives of the Motion Picture Research Council, the S.M.P.E., the Institute of Radio Engineers and the Academy of Television Arts and Sciences be invited to cooperate with the A.S.C. in laying the basic framework for this program."

The committee, which has had several conferences with television representatives, including producers, production managers and engineers, and whose members have made a detailed study of television shows both in Hollywood and New York, have drawn the following basic conclusions:

Live-action shows for direct telecasting present the greatest challenge to the director of photography because of the conditions under which he must work in the television studio.

Film transcriptions allow the director of photography the same general freedom he would have in photographing motion pictures.

Photographing television shows should present no serious problem to any member of the A. S. C., as the findings of the Committee indicates that if a final photographic image is obtained on film which is comparable in quality to that required for theatre projection of motion pictures, the telecast will have optimum quality.

Reference to the diagram reproduced here, and which was displayed greatly enlarged in conjunction with Mr. Milner's address, indicates that the final radiated picture is a function of several inter-dependent variables. It is important to note that the director of photography and the television transmitters are the only variables common to both expressions. The director of photography represents the single humanistic variable common to both.

Sidney Solow, A.S.C., who also is a member of the Academy of Television Arts and Sciences, spoke on the subject of film quality as it affects the quality of television film transcriptions. He pointed out the television monitor—the man who twists the dials that regulate image contrast and density—is a serious factor affecting the telecast of films at present. Too often, he said, the cameramen have blamed the laboratory for a poor developing and printing job, when actually unbridled monitor control has seriously affected the picture quality. Today, Solow observed, TV monitors seem to suffer from "mixers itch." So everything the cameraman can do to thwart the monitor and his itchy fingers will enhance the quality of televised films.

"This can be done," Solow said, "by avoiding large expanses of black areas, avoiding very bright highlights and above all, by avoiding plain expanses of nothing in the scene. It is those plain expanses or areas in the TV picture that make the monitors feel the need to adjust and correct them as the picture goes out over the air. The television screen is incapable of maintaining the same density—a uniform density—over the complete picture area."

(Continued on Page 146)



THE monitor's job is to control the quality of the picture as it is being sent out over the air. When there are inconsistencies and extremes in the video film, the monitor endeavors to smooth it out for best possible reception. Sometimes image quality is beyond his ability to correct.



TELEVISION'S need today, with respect to video films, is for laboratories to supply prints, say of up to 1200 feet in length, in one continuous strip, free from splices. Splices, in addition to ever-present danger of separating, cause annoying jump as they go through TV projector.

Films For Television

Motion pictures for TV demand exacting photography, special lighting and careful processing by the laboratory, according to Robert Fraser, NBC engineer.

By NORMAN KEANE

TWO QUESTIONS asked most frequently by those outside the television industry are, "What is the future for films in television?" and "Will films eventually replace live shows on television?" Answering the last question first, Robert Fraser, NBC's technical development engineer, firmly believes that films are not likely to replace live shows entirely for two reasons: First, there is an intimacy about live shows that appeals to the public. Second, the resolution of live show telecasts is superior to that of most films. Therefore live shows will appeal most to those video viewers who are fussy about quality reception—which takes in just about every television set owner after the novelty of video wears off and he settles down to selecting his television entertainment according to quality.

As to the future of films for television, Fraser, who recently was sent out to Hollywood from New York to put station KNBH's kinescope recording equipment into operation, is well qualified to answer. While aiding in the development of kinescope recording at NBC, Fraser gained considerable experience in the use of television films, particularly with respect to re-transmission.

In Fraser's opinion, the future of films for television lies in their technical quality—or rather in the improvement of their technical quality. "Most of the films being made today for television," he says, "are not a criterion of the video films of tomorrow. Films for television not only require a technique in their production different from that used in making theatrical films, but more careful handling in the laboratory."

Today, television is being supplied with three types of films: (1) reduction prints in 16mm. of theatrical feature films (the "Hopalong Cassidy" and similar releases); (2) short dramatic and comedy films made especially for television; and (3), the commercial announcement or advertising film, also made especially for television.

The inherent fault with the first, Fraser points out, is that, in addition to the fact they were never photographed and edited with the limited screen of the television receiver in mind, such films in most cases are 2nd and 3rd generation prints with the attendant increase in contrast and loss of resolution which makes for poor picture quality on the television screen.

In the second group—the films made for television—are many that adhere to none of the established rules for acceptable television quality. Not only are many of these films shy in technical quality, according to Fraser, but they have not been given the laboratory attention that good television films require.

The third group of films—the television commercials—are marked in many instances by all the shortcomings of the second, plus the added faults that result from inexperience of the producers. Some television commercials, Fraser observes, are being produced at quality levels little above those of amateur movies.

"To produce satisfactory films for television," Fraser says, "it is necessary first to know something about the technical side of the medium and possess a knowledge of its limitations. For example, scenes lit in low key or scenes having predominantly black areas will not televise with fidelity." Fraser pointed out

(Continued on Page 138)

There's A Future In Television Films...

for the studio cinematographer, says "Connie" O'Connell, A.S.C., who has explored the field and found it promising.

By FREDERICK FOSTER

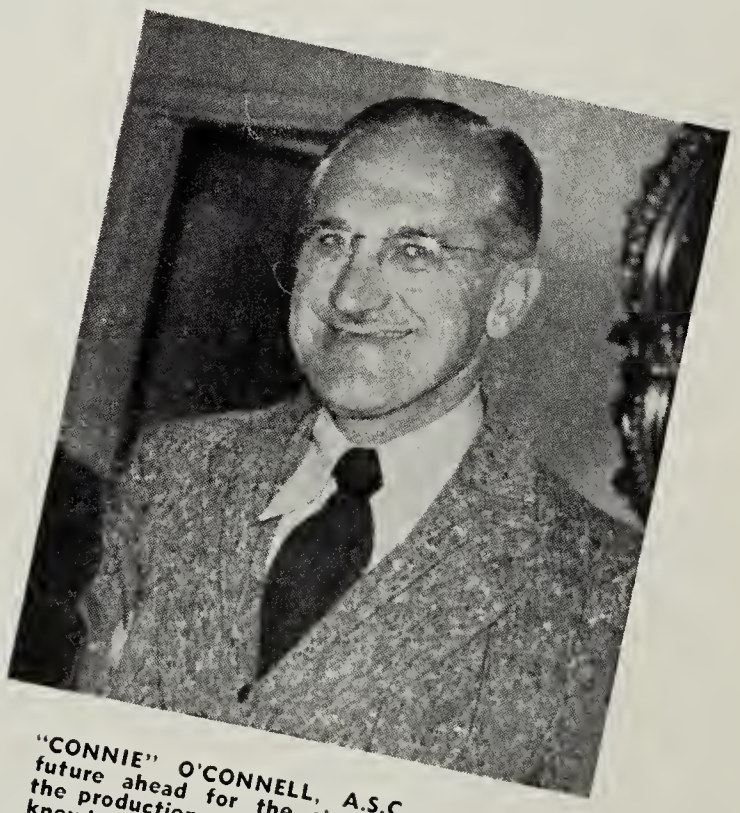
THE SLUMP in Hollywood picture production proved no economic calamity for Lew "Connie" O'Connell, A.S.C. Rather, it offered this resourceful cinematographer the opportunity to explore another promising field for his talents. O'Connell, with more than thirty feature films to his credit at Columbia and a lesser number at such lots as Warner Brothers, Monogram and Eagle Lion, found the hiatus provided the long-cherished opportunity to explore television and what it holds for the future of the motion picture cameraman.

Today, with a total of nine television films carrying his photographic credit line, O'Connell is quite firmly established as a television film producer in his own right, specializing in low-cost one-minute spot announcements, otherwise known as television "commercials." Where television's present audience is not large enough to justify many big national advertisers undertaking large-scale TV programs, there are, according to O'Connell, quite a number of local business firms quite willing if not eager to advertise their products on television, providing it can be done reasonably. It is in this field that O'Connell has found his most promising prospects.

(Continued on Page 144)

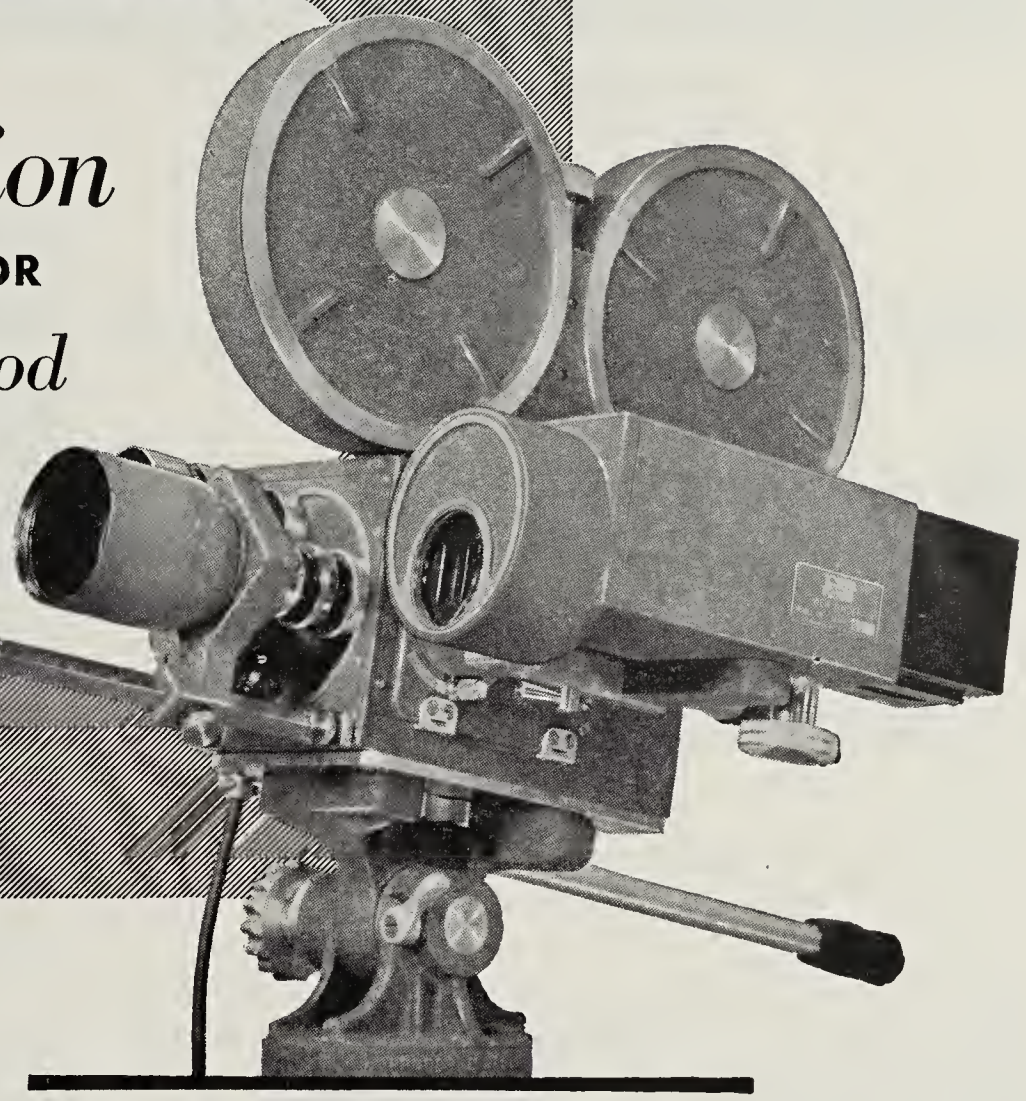


UTILIZING economy tricks learned in years of studio photography, O'Connell is producing TV spot announcements aimed for low-budget advertisers. Above are scenes and inserts from recent film he made for dog food canner.



"CONNIE" O'CONNELL, A.S.C., sees big future ahead for the cinematographer in the production of films for television; says knowledge of economy lighting big factor favoring cameramen.

Television
IS READY FOR
really good films



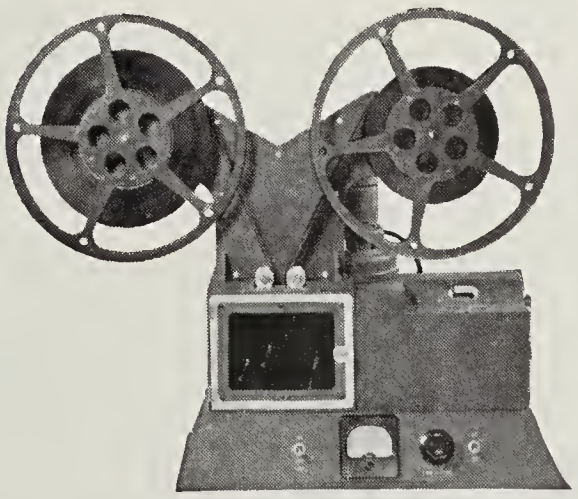
With television maturing so rapidly, it is becoming generally recognized that films cannot just be "adapted," but should be made specifically for television release — and of the finest quality consistent with allowable costs.

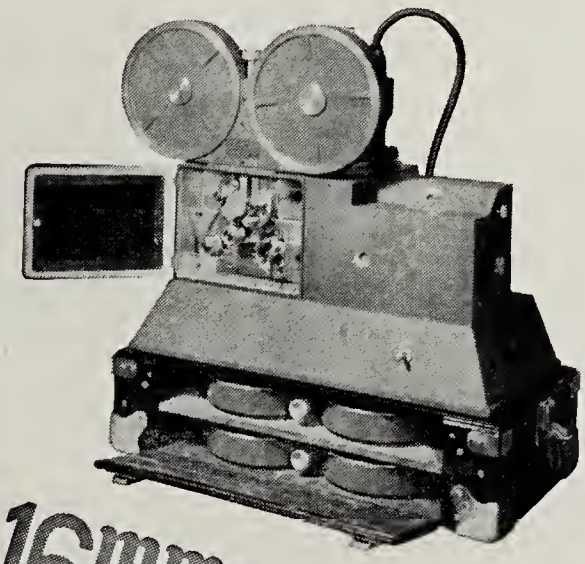
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By ALFRED L. GILKS, A.S.C.



WHEN photographing interesting action, follow the impulse for your eye to move in close for a better view, and do the same with your camera. A sequence of two or three interrelated shots tell your story better than a single shot.

SUPPOSE Metro-Goldwyn-Mayer studios asked you to bring back a movie record of this year's vacation trip which they could use for a short subject? The chances are you'd spend a lot of time first in planning the film, then use extreme care in shooting it. But why not take the same pains with it anyhow? Invariably you will be showing the film to your friends and there's always always a tendency for people to compare the quality of home movies with the professional pictures they see on theatre screens.

A lot of cine camerists who make movies of their annual vacations follow the same pattern year after year: start with scenes of the family car being packed for the trip, the car leaving the driveway, and then follow with random snapshot scenes made along the way. The notable thing about these movies is that they clearly show the spontaneity of the filmer—a spontaneity to grab the camera, sight it on an object or scene with little thought to composition or continuity, and press the button.



RESIST the impulse to grab your camera and make "snapshot" movie scenes without some plan for integrating them into a story-telling continuity. Plan before you shoot, and watch your movies take on new interest on the screen!

Let's do it differently this year. Let's get a little of the professional style into the presentation. This means starting at the time of shooting the pictures, carefully planning each shot so it will dovetail into a sequence of shots that tell a story. On the studio lots, as you know, every shot is carefully planned and described in the script, and the cameraman lights and photographs it accordingly. But even the professional cinematographers who film the newsreels and the documentary films for theatre release follow a plan, shoot for sequence editing, thus insuring story value in their footage.

Your vacation film needn't begin at your doorway. You can save film and begin your picture when the real, interesting action or pictorial interest begins. You can indicate your picture is a document of your vacation in the opening titles, then open it at the locale of your vacation sojourn. In this way, you avoid all the "boring details" that usually start so many home movie vacation films. You get to the meat of the subject at once: you and what you did or saw on your trip.

If you haven't yet developed a knack for shooting your pictures in interesting, story-telling sequences, here is the place to begin. And by this we mean that instead of making a random catch-as-can shot here and there, you reserve your shooting until you have an interesting subject to record; then introduce it with a medium or long shot, move in for a closeup, and then end it with other close shots at different angles that reveal a new view or some storytelling fact. Keep this procedure in mind for all your movie making.

Let's say you're vacationing in Arizona or New Mexico. Inevitably you'll visit Indian reservations and, after obtaining the necessary permission, photograph some of the Indians working at their crafts or in tribal dances. A long shot will introduce your

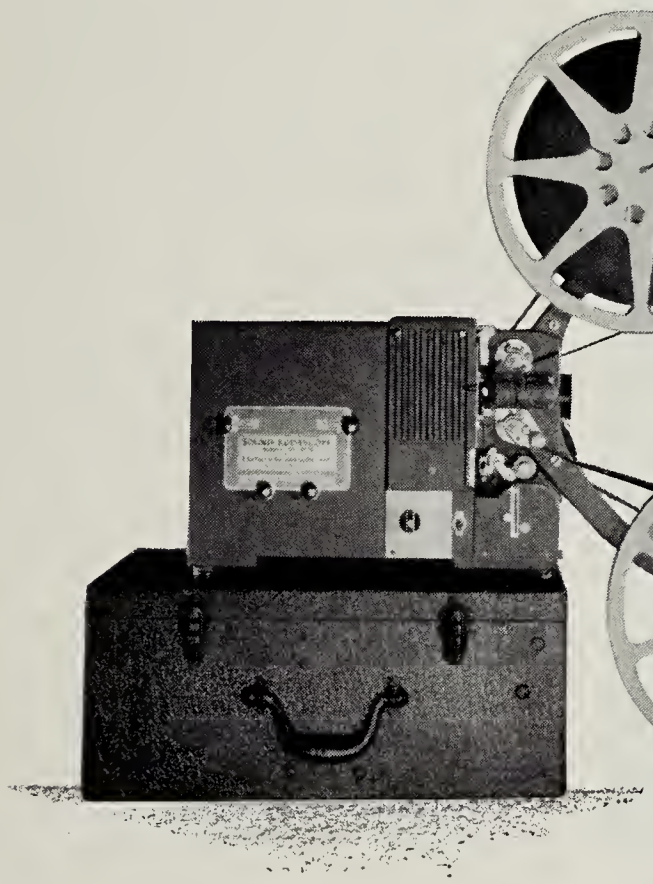
(Continued on Page 141)

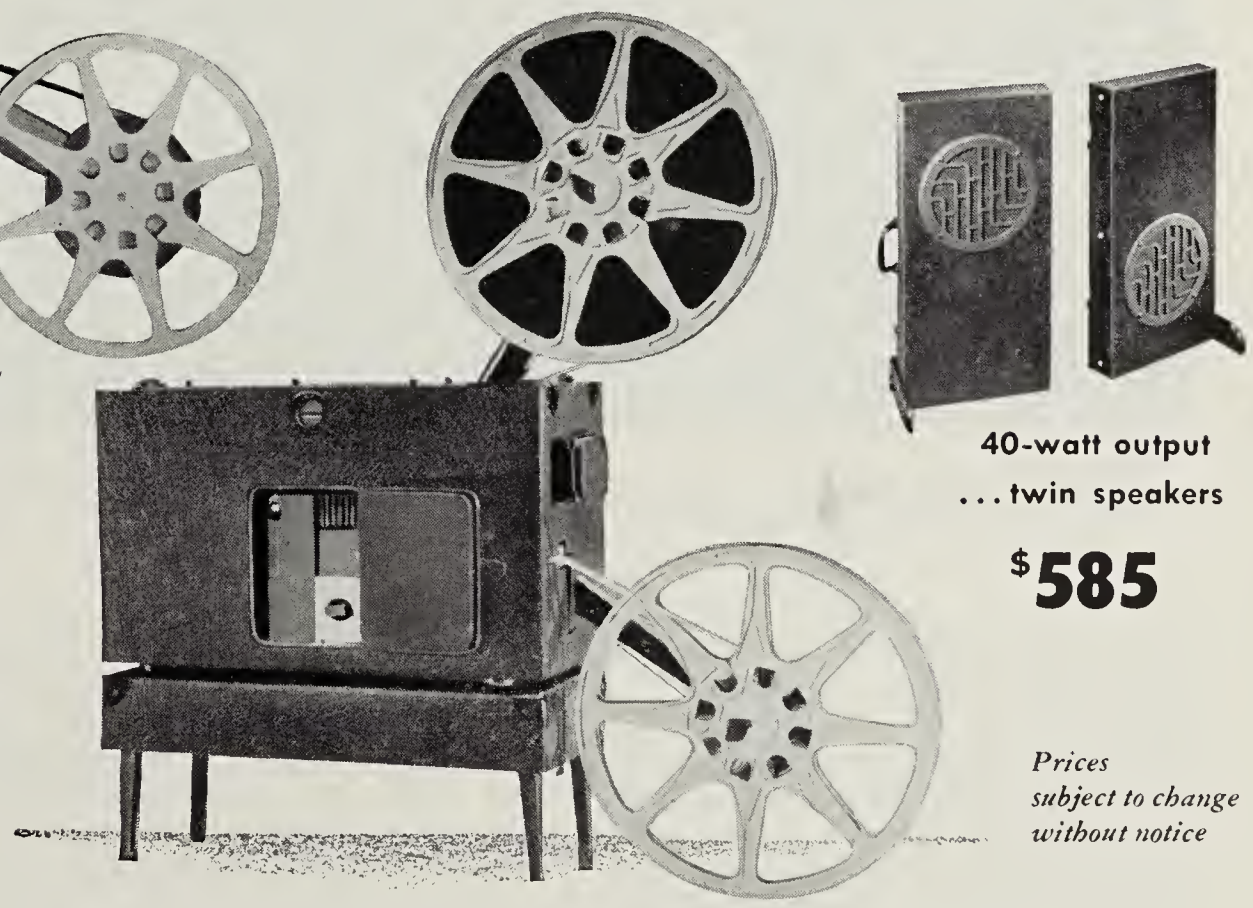
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Kodak

Directing The Commercial Film

Here, in the second of the series of articles dealing with 16mm. business film production, the author emphasizes importance of versatility in the director.

By CHARLES LORING



WHEN faced with the necessity of drawing upon his client's personnel for his cast, the director should carefully select players who appear most at ease, have a natural, self-confident look, and who are, to a reasonable degree, photogenic.

THE DIRECTORS of a commercial motion picture must, in a sense, be a jack-at-all-trades. He must be a combination of writer, cameraman, set designer, electrician, film cutter and diplomat. Unlike the director of the entertainment film, he is not called upon solely to interpret a series of dramatic or comic situations calculated to amuse an audience. On the contrary, he has an idea to sell—an idea which embodies the sales message of the client. It is his job to put that idea across in a manner that will hold the audience's interest.

The director of the commercial film is not as specialized as the photoplay director, whose sole responsibility is the staging of the action. The commercial director must know every phase of production and be able to co-ordinate each separate element to produce a unified result. His job begins even before the script is written. When the idea is still in the embryo stage, he and the writer meet with the client for a number of story conferences, during which they decide the basic cinematic treatment to be used in presenting the client's message. The director's opinion in these sessions is most important, for only he can accurately estimate the amount of time and effort that will be necessary for each effect. He knows what is feasible from the technicial standpoint, and just how much production value can be had within the limits of the budget.

The director works closely with the writer while the script is being developed. He will invariably have certain ideas of action or staging which he will want incorporated into the script. Also, he will check constantly to see that each sequence as written is actually practical from the standpoint of time, budget and the availability of actors or locations. It is far better to have these questions settled before the script is written than to have to do extensive re-writing at a later date.

Once the script is written and approved, the director and his assistant break it down into a shooting schedule for most efficient filming. In this planning stage, the scenes are grouped according to locale, camera set-ups or the availability of personnel—so that several scenes can be photographed together no matter how widely they may be scattered in the script. It is the job of the director's assistant to see that all sets, props and actors are arranged for in advance so that there will be no delay on the set when a particular scene is scheduled for filming.

It is not necessary that the director also be a cameraman, but he should certainly have a wide knowledge of camera technique. The commercial film relies more heavily on visual presentation than does the photoplay, which is primarily a combination of dialogue and dramatic action. Therefore, the commercial director must think in visual terms—but more than that, he must be able to understand the technical requirements of filming this or that bit of action.

The director should know composition and lighting so that he can convey to the cameraman the ideas he has for visually dramatizing a scene or sequence. He must know how to use light to achieve the kind of mood which he feels is right for a certain segment of the script. He must know the mechanics of camera movement so that he will not stage action that is impossible for the cameraman to follow He must, in a sense, be able to think through a view-finder.

In many ways the commercial film is a challenge to the director. Now and again he is fortunate enough to be assigned a subject that is dramatic and visually exciting—but more often than not the basic subject, if not actually dull, is difficult to present in a manner that will hold an audience's attention over a period of viewing time. With this thought in mind he should approach each film with a fresh viewpoint, as if he had never heard of the subject before. He should explore that subject thoroughly, analyz-

(Continued on Page 140)

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DEPTH OF FOCUS

12½mm LENS—8mm CAMERAS

Point of Focus	F.1.5	F.1.8	F.2.5	F.3.5	F.4.5
	IN FOCUS FROM				
Feet	Ft. In. — Ft. In.	Ft. In. — Ft. In.	Ft. In. — Ft. In.	Ft. In. — Ft. In.	Ft. In. — Ft.
2	1 9 to 2 5	1 9 to 2 6	1 7 to 2 8	1 6 to 3 4	1 4 to 4 0
3	2 6 to 3 11	2 5 to 4 2	2 2 to 4 9	1 11 to 7 6	1 8 to 12 0
4	3 0 to 4 8	2 11 to 6 4	2 8 to 8 0	2 4 to 20 0	2 0 to Inf.
5	3 7 to 8 2	3 4 to 9 2	3 1 to 13 4	2 6 to Inf.	2 4 to Inf.
6	4 0 to 11 3	3 11 to 13 2	3 6 to 24 0	2 8 to Inf.	2 5 to Inf.
7	4 7 to 15 2	4 4 to 19 3	3 9 to 56 0	2 11 to Inf.	2 6 to Inf.
8	5 0 to 20 10	4 7 to 29 4	4 0 to Inf.	3 1 to Inf.	2 8 to Inf.
9	5 4 to 29 9	4 11 to 49 6	4 3 to Inf.	3 3 to Inf.	2 9 to Inf.
10	5 7 to 43 4	5 3 to 110 0	4 5 to Inf.	3 4 to Inf.	2 10 to Inf.
11	5 11 to 71 6	5 6 to Inf.	4 8 to Inf.	3 5 to Inf.	2 11 to Inf.
12	6 3 to 156 0	5 10 to Inf.	4 10 to Inf.	3 6 to Inf.	3 0 to Inf.
13	6 6 to Inf.	6 0 to Inf.	4 11 to Inf.	3 7 to Inf.	3 1 to Inf.
14	6 10 to Inf.	6 2 to Inf.	5 1 to Inf.	3 8 to Inf.	3 2 to Inf.
15	6 11 to Inf.	6 4 to Inf.	5 2 to Inf.	3 9 to Inf.	3 3 to Inf.
18	7 6 to Inf.	6 11 to Inf.	5 6 to Inf.	3 11 to Inf.	3 4 to Inf.
20	7 10 to Inf.	7 1 to Inf.	5 9 to Inf.	4 0 to Inf.	3 5 to Inf.
25	8 9 to Inf.	7 8 to Inf.	6 0 to Inf.	4 2 to Inf.	3 6 to Inf.

CLOSE-UP DIAPHRAGM CALCULATOR

3 INCH LENS

DISTANCE OF LENS TO OBJECT ↘

LIGHT VALUE ↓		20 in.	10 in.	7 in.	6 in.	5 in.	4½ in.	4 in.	3¾ in.	3½ in.	3¼ in.
		EFFECTIVE APERTURE									
F. 2	Becomes →	F. 2.3	F. 2.8	F. 3.2	F. 4	F. 4.5	F. 5.6	F. 8	F. 11	F. 12	F. 16
2.8	Becomes →	3.2	4	4.5	5.6	6.3	8	11	16	18	22
4	Becomes →	4.5	5.6	6.3	8	9.1	11	16	22	25	32
5.6	Becomes →	6.3	8	9.1	11	12	16	22	32	36	45
8	Becomes →	91	11	12	16	18	22	32	45		
11	Becomes →	12	16	18	22	25	32	45			
16	Becomes →	18	22	25	32	36	45				
22	Becomes →	25	32	36	45						
		DISTANCE OF LENS TO FILM									
		3¼ in.	4½ in.	5 in.	6 in.	8 in.	9 in.	12 in.	16 in.	20 in.	24 in.

no apparent change in the F. values when the camera is at least ten times the focal length of the lens away from the object, but as the camera distances to the object decreases and the camera extension increases, it greatly affects the F. value, since less light reaches the film.

WHEN depth of focus data is conveniently assembled as in the chart at top, the cine photographer is able to readily determine the lens stop to use to achieve a particular compositional effect. The lower chart is an important guide to correct exposure when photographing ultra-closups of objects. There is a perceptible decrease in the amount of light admitted by a lens as its extension is increased for short focus.

Lens Facts

Data and charts to aid you make better movies.

By JACKSON ROSE, A.S.C.

HOW WOULD you compensate for the light loss when shooting at 64 f.p.s. instead of 16? What is the depth of focus of a 12½mm. lens on an 8mm. camera set at f/3.5? Do you know the field of view of your camera lens at a distance of ten feet from subject? Do you know where to set your lens when required to open up one full stop from f/4.5? From f/1.5?

Unless you are using your movie camera regularly, the chances are you cannot immediately answer all of these questions; and when you encounter any one of them, there is the possibility that you will avoid undertaking the shot unless you have the immediate answer in your mind; as when you want to make slow motion movies of a diver and your exposure meter indicates a lens stop of f/8 as normal for 16 f.p.s. Or, wishing to shorten the depth of focus in order to obscure an unfavorable background, you do not know what stop to use.

It's understandable that movie amateurs who do not use their cameras regularly just don't have such pertinent information at hand or memorized. You acquire such knowledge only when you are working constantly with your camera, as do the professionals. But if you want to make movies with professional class, with innovations that distinguish your photography from the ordinary, you must be prepared to use the full scope of your camera and its lens or lenses, and this means having always handy a quick means of reference to necessary technical information.

One way, of course, is to soak up this knowledge by memorizing it—one phase at a time. Take fast and slow speed photography. No matter what your subject, you can always find use for the variable shutter speeds of your camera. One method is to purposely photograph a roll of film in your camera, using the full range of speeds, and studying the result on the screen. Eight frames per second speed is one half the speed of normal sixteen. At this speed your camera shutter is admitting twice as much light as at normal 16 f.p.s. speed, so, you close your lens one full stop. Now you may not know just what constitutes a full stop on your lens, because not all cine camera lenses are graduated in full stops. Here, then, you must have some dependable source of reference; but once it's acquired, you can memorize the stops and thereafter know where to set your lens diaphragm when instructions say "open up one stop" or "close lens two stops," etc.

Good movies depend upon accurate exposure and sharp focus—in short, 99% of your movie success depends upon the camera lens. So if you lack knowledge of lenses and particularly if you would rather

DIAPHRAGM COMPENSATOR

Lens Stop Conversion
For Various Camera Speeds

16 mm. AND 8 mm. CAMERAS

8 Pictures per Second	12 Pictures per Second	16 Pictures per Second	24 Pictures per Second	32 Pictures per Second	48 Pictures per Second	64 Pictures per Second
LENS STOPS COMPENSATED FOR SPEEDS ABOVE						
F. Value	F. Value	F. Value	F. Value	F. Value	F. Value	F. Value
2.8	2.3	2.	1.8	1.4		
3.2	2.8	2.3	2.	1.8	1.4	
4.	3.2	2.8	2.3	2.	1.8	1.4
4.5	4.	3.2	2.8	2.3	2.	1.8
5.6	4.5	4.	3.2	2.8	2.3	2.
6.3	5.6	4.5	4.	3.2	2.8	2.3
8.	6.3	5.6	4.5	4.	3.2	2.8
9.1	8.	6.3	5.6	4.5	4.	3.2
11.3	9.1	8.	6.3	5.6	4.5	4.
12.5	11.3	9.1	8.	6.3	5.6	4.5
16.	12.5	11.3	9.1	8.	6.3	5.6
18.	16.	12.5	11.3	9.1	8.	6.3
22.	18.	16.	12.5	11.3	9.1	8.
25.	22.	18.	16.	12.5	11.3	9.1
32.	25.	22.	18.	16.	12.5	11.3
36.	32.	25.	22.	18.	16.	12.5
45.	36.	32.	25.	22.	18.	16.
64.	45.	36.	32.	25.	22.	18.

EXAMPLE: With a light value of F.8 at 16 pictures per second which is normal to shoot at a speed of 32 pictures per second, lens is opened to F.5.6; to shoot at a speed of 8 pictures per second, lens is closed to F.11.3 SHUTTER OPENING IS CONSTANT.

just skip a shot rather than make a "guess" at setting exposure or focus, you're going to miss a lot of opportunities that lead to movies with professional class. And it's possible for every movie amateur, 8mm. or 16mm., to achieve professional class in his picture making. You needn't have an expensive camera, a camera full of gadgets, but you do need the "knowhow" about lenses.

I don't mean to infer that every movie amateur must memorize all the important facts pertaining to movie lens use. But he should know where to find such facts when he needs them. Better still, he should have them close at hand whenever he's using his camera. Reproduced here, from pages of the *American Cinematographer Handbook,* are three charts important to every movie amateur. The first shows the depth of focus of a 12½mm. lens for 8mm. cameras. By referring to this chart, it is possible to determine in an instant if the background will be in sharp focus when subject is 10 feet from camera and the lens stop is f/2.5. The chart is particularly useful as a guide in shooting miniature sets or ultra closeups of small objects, where artificial light is used for illumination and therefore can be controlled in order to gain use of the right lens stop to achieve limited or unlimited depth of focus.

The Closeup Diaphragm Calculator chart for the 3 inch lens shows a quick method of determining the changes in effective aperture from the measured light value, when photographing small objects at close range. Normally there is no apparent change in lens f/values when the camera is at least ten times the focal length from subject; but as the camera distance to subject decreases, as in ultra-closeup photography, the lens extension increases which greatly affects the f/value, since less light reaches the film. This chart makes it possible to compensate exposure for such light loss.

The Diaphragm Compensator chart is one which the movie amateur will frequently refer to. It indicates the correct lens stop conversion when camera is used at various speeds. You may have occasion sometime to make commercial films, if yours is a 16mm. camera. If so, it will be necessary to shoot at 24 f.p.s.—the standard sound speed. It will be necessary for you to know how much to open up your lens from the setting normally established for 16 f.p.s.—or better, to know exactly what stop to use. This chart gives it to you at a glance.

Cut these charts out and paste them in a notebook for handy reference when making movies. Let this be the start of an important technical reference guide for your movie making. The American Cinematographer Handbook, of course, contains scores more of such timely and all-important data charts.



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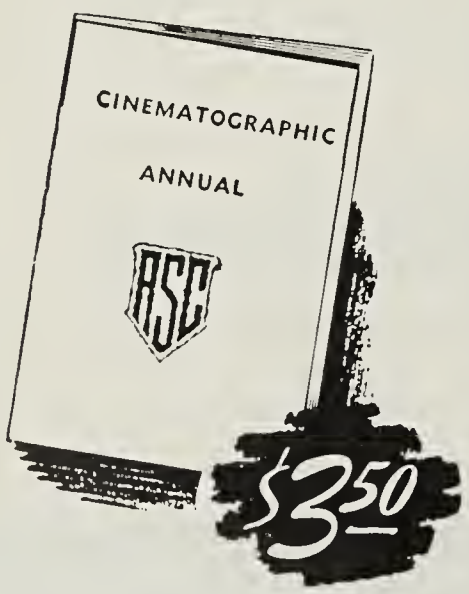
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American Society Of Cinematographers
1782 No. Orange Dr., Hollywood 28, Calif.

1948 ACADEMY AWARDS

(Continued from Page 121)

gan awarding trophies to collaborating directors of photography.

William Daniels' award for best black and white photography also marks for him a triumph of determination. Winning it proved that he could pursue a new format in motion picture photography successfully. Having spent 30 years at MGM, where he was rated the top "glamour" cameraman in the industry, Daniels determined to get away from what he believed was a rut. Ageing stars and changing times, he foresaw, demanded a change not only of scenery but of pace if he were to preserve his artistic and technical perspective. He went to Universal and it wasn't long—less than two years—before the opportunity he sought came along. It was the late Mark Hellinger's "Naked City," and Daniels tackled it with a zest unparalleled in his career. Daniels proved that he could photograph realistic subject matter with all the imagination and artistry he formerly imparted to "glamour" pictures.

It was immediately recognized, of course, that Daniels' virile documentary photographic treatment gave the story power and force, that he had brought stark realism to the screen in a manner never before attempted.

While this is Daniels' first Academy Award, he has been a contender on two other occasions when in 1931 "Anna Christie" was nominated for a photographic award, and again in 1939, when "Marie Antoinette" was nominated for photography. Both pictures were nosed out in the final balloting.

Joseph Valentine is probably the first director of photography ever to receive an academy award for his first Technicolor picture. The success of "Joan Of Arc" and the Academy Award which subsequently was bestowed on Valentine for his camera artistry is a personal triumph which he shares with William Skall and Winton Hoch, who were associate directors of photography on the picture.

Valentine confounded Technicolor experts by purposely underlighting many of the scenes in "Joan Of Arc" and having them come out O.K. Thus, he probably added something in the way of new and hitherto untried procedures for this color medium.

The fact that Valentine was, on four previous occasions, a contender for Academy photographic awards proves that such ability sooner or later demands and receives just rewards. He holds Academy nomination certificates for "100 Men And a Girl" (1937), "Wings Over Honolulu," (1938), "Spring Parade," (1940), and "It's A Date," (1940).

Valentine has been a cinematographer since 1922 and was probably the first to acquire the title, "Director Of Photography." He was with Fox 12 years, Universal 12 years, spent a year at MGM, and was attached to the U. S. Air Force photographic corps during the war.

Although it is the first year that William Skall has received an Academy Award, it is not the first time that this quiet, unassuming director of photography, has been a contender. He has received nomination certificates from the Academy for "The Mikado," (1939) and "Northwest Passage," (1940); also for "Billie The Kid," which he photographed in association with the late Len Smith. He became a triple-threat man in 1942 when three pictures on which he collaborated photographically were nominated for photographic awards. These were: "Arabian Knights," in collaboration with Milton Krasner, A.S.C., and Wm. H. Greene, A.S.C.; "Reap The Wild Wind," in association with Harry Jackson, A.S.C., and Victor Milner, A.S.C.; and "To The Shores Of Tripoli," with Edward Cronjager, A.S.C., and Harry Jackson, A.S.C. Still another nomination certificate was added to his collection when in 1947 "Life With Father" was nominated for a color photography award but was eliminated in the final voting. Skall collaborated with Peverell Marley, A.S.C., on this one.

A World War I ace, Skall also served in the photographic division of the Air Corps in World War II. He considers "Joan of Arc" one of his most challenging assignments. This was followed by Alfred Hitchcock's "Rope" on which he again collaborated with Joseph Valentine.

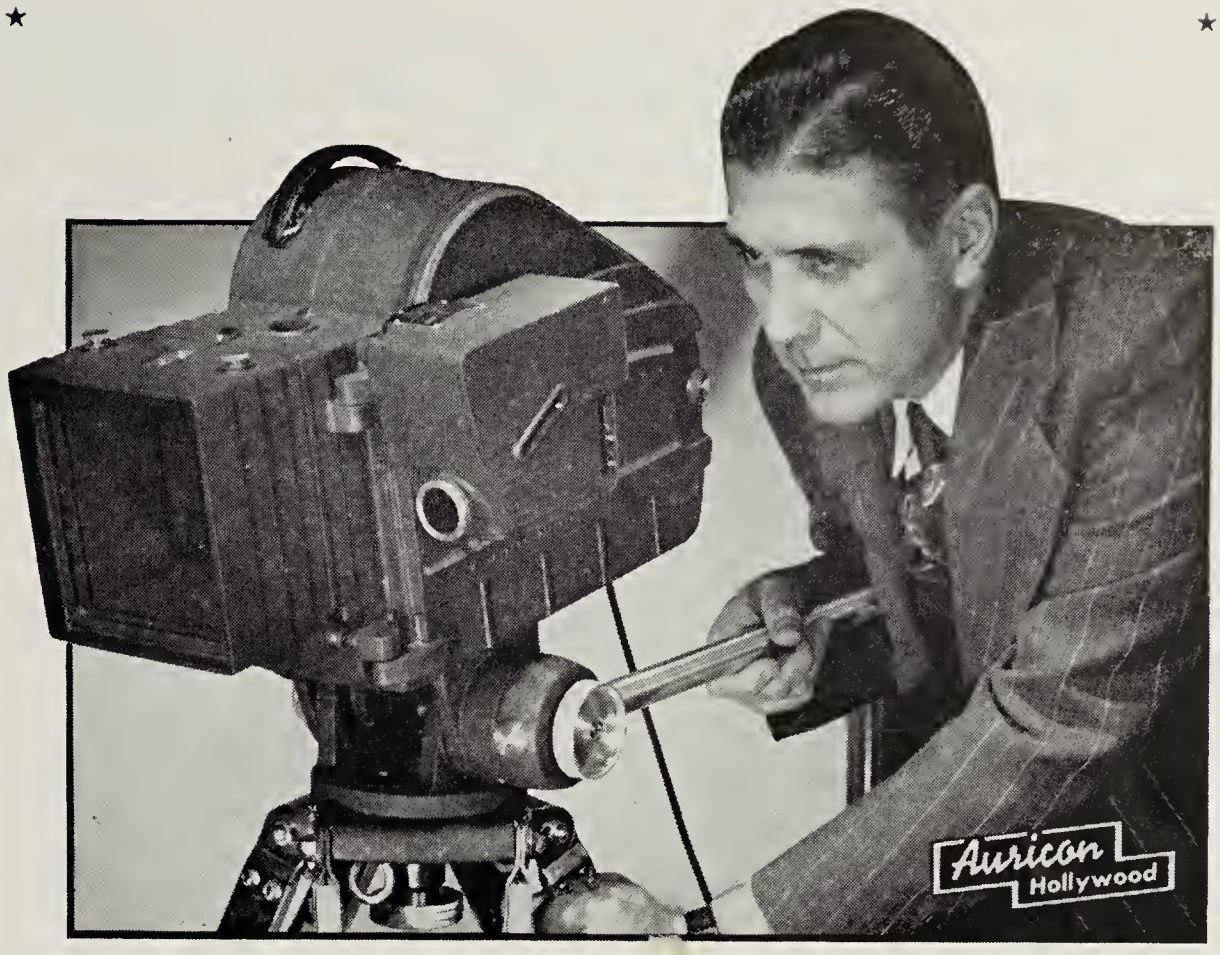
Winton Hoch (name rhymes with "coke") is the third of the triumvirate awarded Oscars for the photography of "Joan Of Arc." His artistry and competent handling of the Technicolor camera is evident in the majority of the battle scenes in the picture which he photographed. Hoch is a director of photography under contract to Technicolor Corporation. One of the first important features filmed by him was "Dr. Cyclops," which first revealed his talents for effect photography and had every Hollywood studio bidding for his services. Thereafter he did aerial photography for "Dive Bomber" and "Captain Of The Clouds," and the live action photography for Walt Disney's "Reluctant Dragon" and "Fantasia." Fox kept him working a full year in their special effects department,

doing trick photography, then the war intervened and Hoch went into the Navy's photographic service.

As one of Technicolor's top cameramen, Hoch has continually worked in an atmosphere of Academy Award winners or nominees. He assisted with the photography of "The Black Swan," which won an award in 1942 for photographic achievement, also on "Crash Dive," which won a special visual effects achievement award in 1943. Hoch photographed the live action for Walt Disney's "So Dear To My Heart" and subsequently shared photographic credit on Walter Wanger's "Tap Roots." More recently he has photographed John Ford's "Three Godfathers," currently showing, also "Tulsa" and "She Wore A Yellow Ribbon."

The fifth Oscar awarded in the photographic division to an A.S.C. man was received by Paul Eagler, for achievement in special visual effects in the Selznick picture, "Portrait of Jennie." Eagler, in association with Russell Sherman and Clarence Slifer, as already stated, photographed the special effects for this picture under the direction of J. M. Johnson. Eagler, probably one of the oldest active special effects cameramen in point of service, made his first process shot in 1923. Since then he has contributed special effects photography to hundreds of Hollywood feature films, many of them

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•

TO PROLONG LIFE OF Photoflood lamps that have been used, store them in individual cans with wad of cotton on bottom as a cushion.

•

THE NEW "MAGIC SLATES" being sold at toy counters make an excellent device for providing temporary titles or identifying data while shooting on "location." Simply write text on plastic surface of slate, photograph, and "erase" text by lifting the plastic panel from the wax base. Dime stores have them, too.

•

WHEN FILMING IN TROPICS or hot climates, keep all camera accessories away from direct sun rays and other excessive heat. This is especially important of lenses and filters, which can be ruined by heat or strong, direct sunlight. A white cloth draped over the camera will reduce the heat absorbed and prevent film buckle.

•

KEEP CAMERA LENSES COVERED at all times when camera is not in use, to prevent damage to lens surfaces from excessive heat, humidity and dampness. Use *metal* lens caps which protect lenses from dust as well as danger of abrasions.

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Academy Award winners. The Oscar he received this year is his first, but he has previously received nomination certificates for outstanding special effects work on "The Hurricane" (1937) and "Foreign Correspondent" (1940).

While the Academy Awards serve for the moment to underscore the achievements of these men, it goes without saying that all their work is, and has been, of the same high caliber as that in the pictures which the Academy evaluated and found worthy of special recognition this year. The awards, in most cases, will infuse new interest and enthusiasm in the recipients and this, after all, is the purpose of the Academy's annual awards presentation. As Jean Hersholt, Academy president, stated in his talk which opened the presentation ceremonies, "The Academy has devoted itself to honoring efforts which, whether or not they resulted in financial success, were admirable pieces of work, artistically important and enriching the culture from which they were developed."

FILMS FOR TELEVISION

(Continued from Page 125)

the peculiar tendency of the iconoscope tube to flare on dark areas, and stressed that in picture composition for television, large solid black areas, particularly at either side or bottom of the picture frame, should be avoided, otherwise annoying flare will be created in these areas when the picture is televised.

The conclusion is that "arty" lighting in motion pictures for television must be restrained in keeping with the medium's limitations. On the other hand, excessive bright areas create a problem, too. Highlight details in the image projected on the iconoscope tube tend to "wash out" because of the compression or saturation of whites on the tube.

A more even lighting than is normally used in standard motion picture practice will render better results for television films—that is, by keeping the shadows fairly light and the overall contrast more level. A subject contrast between 1-to-20 and 1-to-30 nets best results, where laboratory work is of maximum quality.

The subject of lighting comes in for special attention in the Society of Motion Picture Engineers' recent booklet, "Films In Television," which states: "The limited range of picture tube brightness requires that subject contrast be controlled wherever possible . . . even lighting is essential particularly over large picture areas. That is, large picture areas must have about the same average illumination . . . The general intensity of illumination from scene to scene should be kept relatively constant so that the level of the television signal does not change markedly. For this reason night scenes should be avoided."

Television films require more attention to compositional details than do theatrical films. Medium shots become the "long shots" of TV photography while the conventional long shot of the feature film should be avoided because it rarely adds anything of value to a video film production and frequently causes the viewer to lose the trend of continuity. Because viewing screens of home television receivers are small and the field of action limited, closeups give the most satisfactory reproduction and therefore should make up the bulk of the television film.

This brings us to the subject of framing. Because there are two and sometimes three steps in the process of transmitting the video film image to the home receiver that affect the overall size of the picture, there is a marked reduction in the area that is finally seen by the television set owner. First the scanned area of the film is slightly reduced, when picked up by the iconoscope, to insure a safe margin all around the picture; then there is the additional loss of border area caused by the framing around the screen of many home receivers. Because of this, it is important that closeups be not played tight or full frame, otherwise some important detail is bound to be chopped off in the picture seen on the screen. "The action should be kept centered, but there should be a generous allowance of space at top and bottom and at the sides of the picture frame, as seen in the camera viewfinder," Fraser said. The S.M.P.E. recommands that subject material be kept within a central area having 8½% top and bottom margins and 13% side margins.

Makeup is another important factor in the production of television films and something that has received too little attention thus far among many producers of films for video. Faces of players are always the center of interest on the television screen, of course, and it is important that facial details register clearly at all times and above all never be washed out. A face too light will tend to wash out where the picture is not carefully watched by the monitor as it is being sent out over the air. A safety factor is to keep faces slightly darker than one might ordinarily for feature films. Experienced TV film producers who have worked to perfect this factor of TV film

quality recommend makeup two shades darker than that commonly used for theatrical films.

The handling and processing of television films by the laboratory is one of the most important steps in their production, according to Fraser. One may light and photograph a picture with extreme care, follow all the established production rules, yet the film may televise poorly because of careless or improper developing or printing. There has been a tendency for some film laboratories, Fraser said, to treat 16 mm. film strictly as an amateur medium with the result that its full potentials never have been fully developed.

Film laboratories, he said, need to improve sensitometric control of both picture and sound track printing of 16mm. television films. Also there is a great deal of printer slippage evident in many current films which greatly impairs their quality when televised. Best results follow, Fraser said, where prints are made with a step printer of good quality.

Grain is an inherent problem in all 16mm. television films because there is grain or, as it is commonly called, "noise," in television, too; and any film grain naturally adds to this to lower the overall quality of the televised picture.

Fraser pointed out another laboratory problem faced by television, and that is

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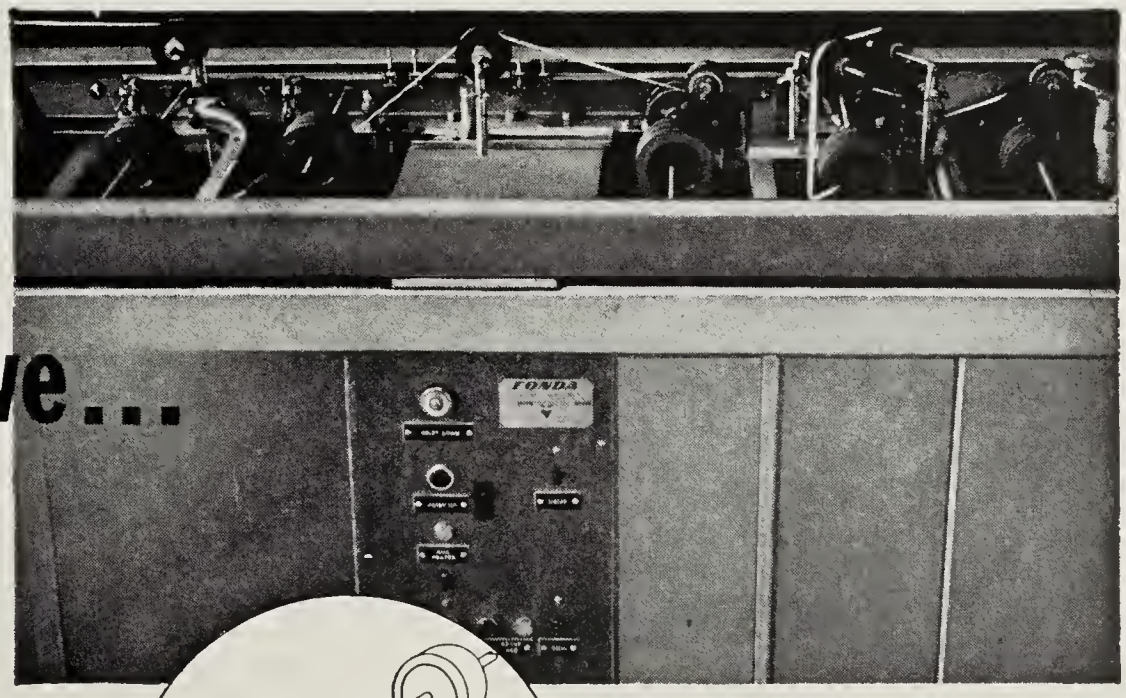
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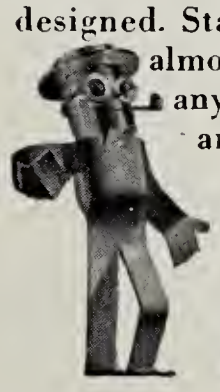
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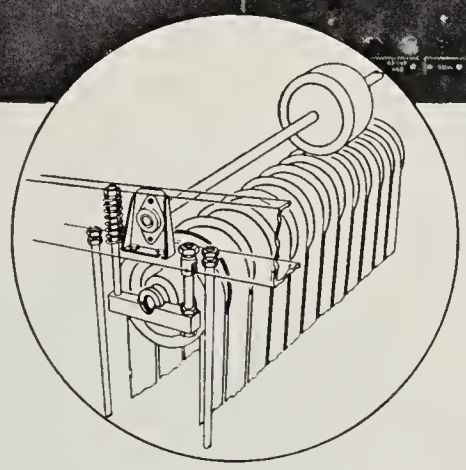
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• KENNETH MacLEAN's wife presented him with a baby daughter, subsequently named Jean.

• JOHN BOYLE was keeping the communiques rolling from Rome where he was preparing to shoot Goldwyn's superproduction, "Ben Hur."

• JOHN SIETZ, winding up shooting for Rex Ingram's "The Arab" in Tunis, was preparing to move on with the company for location shots in Paris.

• MITCHELL CAMERA Company called attention, via a full page announcement in "American Cinematographer," that every one of the feature films shown in the six major theatres in downtown Los Angeles in one week (those were the days of single features,) were photographed with a Mitchell camera.

• BERT GLENNON, ERNEST HALLER, and Louis Tolhurst were admitted to membership in the A.S.C. Glennon had recently finished Cecil B. DeMille's "Ten Commandments." Haller had just completed five pictures in a row for Paramount starring Thomas Meighan. Tolhurst, an expert on microscopic cinematography, was cameraman for Principal Pictures Corp.

• JOHN ARNOLD, who had photographed every picture in which Viola Dana appeared since she became a star, was photographing "Along Came Ruth," latest Metro production starring Miss Dana. Eddie Cline was the director.

• DAN CLARK was establishing something of a record for cameramen, starting the filming of his twentieth production since 1922 starring Tom Mix. Clark's unit was one of the busiest in the industry, having the entire west for its shooting grounds.

• AL GILKS, suffered loss of a few front teeth and a badly lacerated face in a golf links accident, when a fellow player's driver slipped from his perspiring hands and struck Al as he stood by watching the drive.

• DAVID ABEL was shooting "Beau Brummel" for Warners Brothers.

• GEORGE BENOIT, who had just completed shooting the Belasco production, "Welcome Stranger," starring Florence Vidor and Robert Edeson, suffered loss of a valuable French camera when thieves broke into his home during his absence. Oddly enough, they passed up other photographic equipment, all of which was fully insured.

• HOMER SCOTT and FRED JACKMAN were vacationing in Mexico on weekends, flying there by private plane.

the inability of many labs at present to furnish a continuous 1200 foot 16mm. print without splices. Film splices, in addition to the ever present danger of parting during projection, cause an annoying jump on the screen as they pass the projector gate. TV projectors have a very rapid pull down movement, compared to ordinary 16mm. projectors, that exerts strong pull on the film. Some east coast laboratories are now equipped to render continuous prints up to 1200 feet in length, and it is expected that other laboratories in the country will soon follow suit.

The subject of films for television is coming in for more and more clinical study as their importance becomes more evident with the growth of the television industry. They will come in for special study at the forthcoming semi-annual convention of the Society of Motion Picture Engineers in New York City this month. The Society's recently published book, "Films For Television," mentioned earlier, is available at small cost through S.M.P.E. offices. It reports the latest findings in the study of films for video including photography, lighting, processing and kinescoping. It is recommended reading for all who are interested in the production of films for television, whether in 16 millimeter or 35.

DIRECTING THE COMMERCIAL FILM

(Continued from Page 130)

ing it for elements that can be dramatized in picture and sound.

In filming the commercial picture, the director will work with objects and with people. The objects include products, machinery and buildings—all of which (since they have no movement of their own) rely mainly upon lighting and camera angle for dramatization. The people, on the other hand, are strictly the responsibility of the director. They talk and move according to his directions, and their performances in the finished print should reflect his approach to the subject.

It is in his handling of players within the scene that a director proves whether he is worthy of the name or not. If he is fortunate (and is given a sufficient budget) he will be able to procure professional actors who are experienced in creating an illusion of reality. If this is the case, his problems of staging action are considerably simplified. Usually, however, he will not have a professional cast and will be forced to rely upon amateur actors and non-actors who are actually working in the locales to be filmed.

If, as is very often the case, he has to make actors out of the people working in the locale, he will have to cope with different problems.

Almost anyone who has had no acting experience or who has never appeared before a movie camera will tend to be self-conscious and somewhat awkward at first, especially when asked to "act" before his fellow employees and under the direction of a stranger.

Faced with the necessity of using these untrained players for his cast, the director should first study his client's personnel and mentally select the most promising —those who appear most at ease, have a natural self-confident air about them and who are, to a reasonable degree, photogenic.

Once the director spots likely talent among his client's personnel, he should first obtain permission from the client, or his subordinate, to use them in the picture before he approaches the employees themselves. While most clients cooperate very well in lending their employees to take part in a film sponsored by them, it sometimes happens that certain employees cannot be interrupted in their work without seriously affecting plant production.

In staging a scene with inexperienced players, patience and understanding will net the most satisfactory performances. You will find that as the player repeats his performance in rehearsals, it tends to come easier to him. So count on plenty of time for rehearsals.

In directing an inexperienced actor keep your action patterns simple and in key with the person's own background in his line of work. This is "type casting" perhaps, but it is the quickest and simplest way to get a convincing performance from one who is new to screen acting. The director will find that it pays to take time to explain carefully to his cast the full gist of the script or at least the particular sequence then in work.

The success of the commercial film depends primarily upon the director's ability to co-ordinate the situation in the script with those he encounters in the actual locale. What sounds like simple action in the script may become somewhat complex when you have to stage it using novice actors and while working around a plant or office schedule. The director's patience is often sorely tried by apparently unnecessary delays, but in commercial filming he cannot allow himself the luxury of temperament. On the contrary, he must constantly be tactful and diplomatic. He should bend over backwards to be pleasant and considerate of the people who are working on his picture, both cast and crew—since pleasant relationship invariably result in better pictures.

Each director has his own individual working technique on the set. Some prefer to paint a word picture of the scene at hand and thus "talk" their players into

giving the right performance. Others prefer to act out the role and have the actor imitate the performance. The happy medium involves a bit of both styles. Discuss the scene with the players and then walk through the action for them, outlining the general pattern of action and suggesting with inflection or gesture the effect desired.

As a general rule it is wise to avoid direct dialogue sequences unless you have competent professional or semi-professional actors available to play the parts. Amateurs who are not used to speaking lines rarely give convincing performances. There are, of course, exceptions—but it is far better to assign dialogue to experienced people than to take a chance on impairing the result.

One of the worst fates that can befall the director of the commercial film is to have technical inaccuracies show up in his final print. In order to avoid such deadly boners, the director should attend all story conferences with both writer and client. He should also request that the client assign a well-oriented individual of his own staff or personnel to work closely with the filming crew during production.

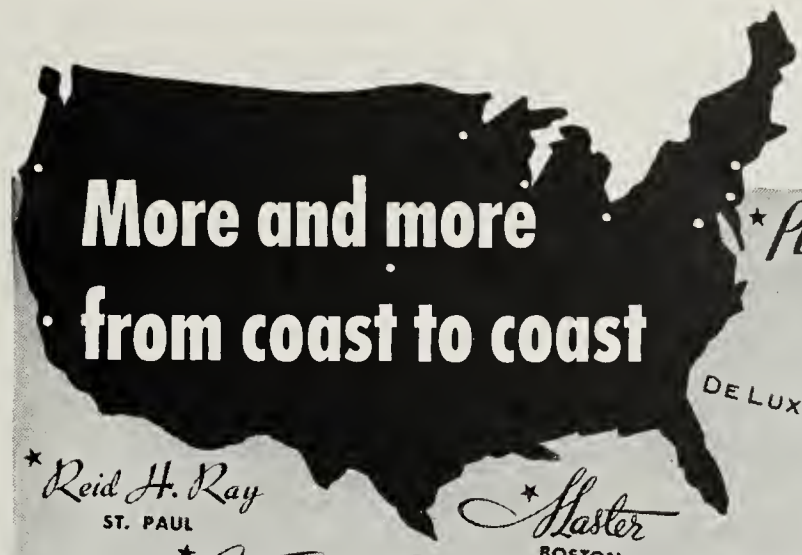
The commercial director has a two-fold responsibility: to present the client's message clearly and forcefully—and to make the cinematic result something an audience will want to sit through. To meet the challenge, he must present factual material in an absorbing manner, for originality is the keynote of success in the commercial film fiield.

GIVE YOUR VACATION MOVIES A 'BREAK'

(Continued from Page 128)

subject, and show the locale; then you can move in for close shots of your subject at work, closing the sequence with an ultra-closeup of the work—perhaps a piece of pottery, a blanket in course of weaving, or a native meal in preparation. You can reverse the order, too, with equally good effect: open the sequence with a closeup of your subject, pull back to a medium shot to show the surroundings, then move back in—and nearer this time —to show at close range the object of your subject's handicraft.

Each of these shots need only be a few seconds in duration. The sum total of the whole—a series of two or three shots, each at a different distance or angle—will tell your story and need not exceed the total footage that you might otherwise devote to a single shot of the subject. By breaking up the sequence into a series of short shots, you create more interest in the subject and your picture takes on real professional style on the screen.



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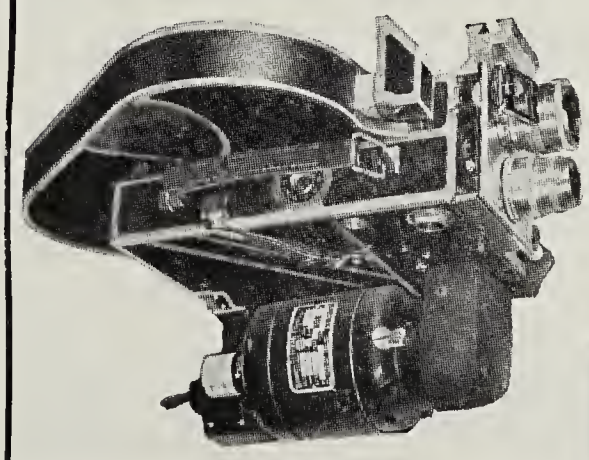
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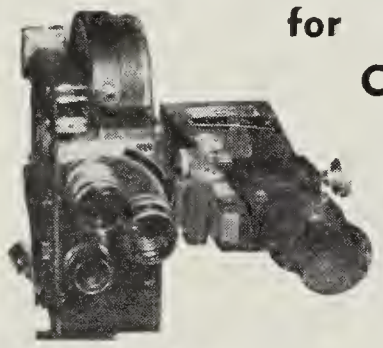


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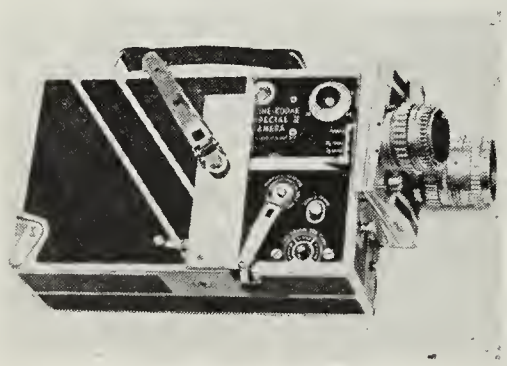


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A swimming pool is an excellent setting for movies because there's always plenty of action and a backdrop of colorful water and pool surroundings to challenge your photographic skill. You'll want to make shots of members of your family here, and again "sequence shooting" is recommended for best screen results. In the accompanying picture, mother, teaching Junior to swim, is being photographed close up from edge of the pool. Properly preceding this shot, of course, would be a long shot introducing the locale, and a medium shot showing bathers in the pool—much more satisfactory than one or two non-related shots made at random.

The nice thing about this sequence shooting plan is that it saves film. You don't go around making shots haphazardly here and there, shots that have no story value on your home movie screen. At best, such movie making is just a series of "post card" shots which you could have made just as easily, although with less fun, with a snapshot camera.

Sequence filming of the sort described here doesn't call for preparation of a shooting script. Instead, you plan each shot in sequence order before starting your camera. Old Faithful Geyser? Get it in three short takes: (1) long shot; (2) medium shot, showing spectators eagerly awaiting its eruption; and finally (3) a long shot of the geyser in majestic eruption. Uncle Amos' farm? You can shoot a whole roll of film here. But let's take just one of the many possible subjects: the new colt romping in the corral. Begin with a long shot showing mother and colt idling across the corral by the fence; then move in for a closer shot, and finally one or two shots closeup—perhaps one showing Junior petting the colt.

The instances cited should give you the idea. You can apply the technique to any subject, and to scenery, too. Suppose you plan to shoot Bridal Veil Falls in Yosemite. Naturally you can't shoot such a subject in closeup. But you can get *variety* and increased interest in a sequence of shots by varying your camera angle each time. Shoot the falls from a distance; then from a nearer distance at another angle (from another location within the park), then from a point below the falls, looking up. Of course, you won't shoot this sequence in 1, 2, 3, continuity, because it will mean travelling a considerable distance between camera setups. You may even have to make the shots on different days. If so, make sure sunlight conditions are approximately the same for each shot.

A "sequence" may consist of as little as two and as many as four or five shots. Experience will show you how many takes are necessary to tell your story in detail. Don't "repeat" your takes, however, any more than once having panned on a scene, from left to right, you'd pan back again. It isn't good cinematic technique. One way to start is to make it a point to shoot each subject of interest in at least three takes—a long or medium shot to introduce locale; a medium closeup; and finally a screen-filling closeup of the subject or action detail.

Make it a point this summer to try this recommended plan, and note the livelier response of your home movie audience to those films given the resultant "new look."

SOUND STAGE SEAFARER

(Continued from Page 123)

in such a way that the scenes could be grouped for each angle. This meant that the ship had to be turned only once or twice during the day's shooting, and usually during the cast's lunch hour or after filming had stopped for the day.

A second device used to bypass delays in swinging the ship around was the placement of process screens at oblique angles for front projection. For one night sequence the background was projected from a 45 degree angle onto a huge muslin screen and the action was played in front of it, with the camera squarely facing the screen. One of the greatest problems, seemingly, was finding space in which to throw the huge image needed to fill the 35 foot background screen, since the ship itself took up most of the space on the sound stage. This was solved by placing the projector on another stage and shooting it through a tunnel connecting the two stages.

Except for scenes actually showing the lowering of boats into the water and target practice on dummy whales, the bulk of the water action was shot in the studio tank. Especially effective is the sequence in which one whaling crew is lost in the night fog and the other crew goes searching through the murk with flaming torches.

The two climactic highpoints of the film, the whaling sequence and the iceberg sequence, both owe their visual effectiveness to superb applications of special effects and the use of miniatures. Joe MacDonald is loud in praise of special effects expert Ray Kellogg, who executed the mechanics of these effects.

The whale which blows its spray of water so realistically as it plows through the water is a cleverly devised miniature —even in the scenes in which it rams the boat. Process plates were made of this

action and blown up as a background for the players. Needless to say, the light balance between background and foreground is so perfect that even the trained eye is unaware of any obvious trickery.

The iceberg sequence is a masterpiece of staging. Miniatures of the ship and the icebergs were used in the long shots and corresponding "life size" segments of both in the closer shots. One of the most effective scenes is that in which the ship is groping its way through the fog in an effort to avoid striking an iceberg. As the watchers peer anxiously into the pea-soup atmosphere, the fog suddenly lifts to show a huge iceberg rearing up. Then the ship breaks through into sunlight.

Staging this bit of business called for precise timing and the use of an unusual mechanical set-up. First the miniature icebergs were filmed with and without a fog filter. Then two projectors were set up and trained on the same rear projection screen. Into one projector was threaded the iceberg footage. The other projector was threaded with footage of swirling fog shot at sea. For the beginning of the sequence these two images were superimposed on the screen. When the fog was due to lift, the fog was faded out to reveal a ghostly image of the iceberg. Then, when the sun broke forth, there was a dissolve to the unfiltered shot of the iceberg. At the same moment the lights were brought up on the foreground subjects to simulate sunlight. The result is a very striking bit of realism.

Joe MacDonald's style in filming "Down To The Sea In Ships" is a careful blending of sharply highlighted low-key lighting, extreme depth of field, and forceful camera composition. The night scenes on deck are graphic patterns of black and white. Some of the daylight scenes are purposely very flat to simulate the raw quality of overcast. The camera angles are frequently low and framed with foreground objects for added depth. In shooting these depth-of-field scenes, extremely high light levels were used so that the lens could be stopped down to insure sharp focus in both planes.

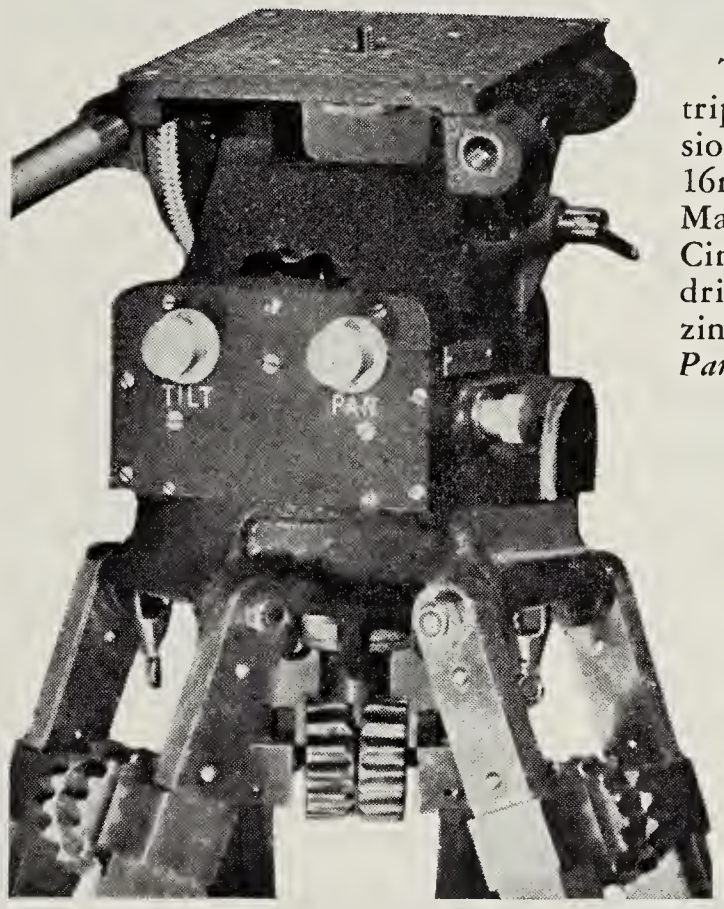
MacDonald, who has been a cinematographer at Twentieth Century-Fox since 1929, is a camera artist who would hoot at the idea of being called *arty*. He works with the sure instinct born of many years of experience, and leans more on his know-how than on any combination of gadgets and technical data.

MacDonald lays claim to no magic formulas in photography. "I like simplicity on the screen," he explains. "For years I've been studying the works of the great painters, and I've found that the best paintings were done using a simple, uncluttered approach. For this reason, I've always tried to get a clean quality into my

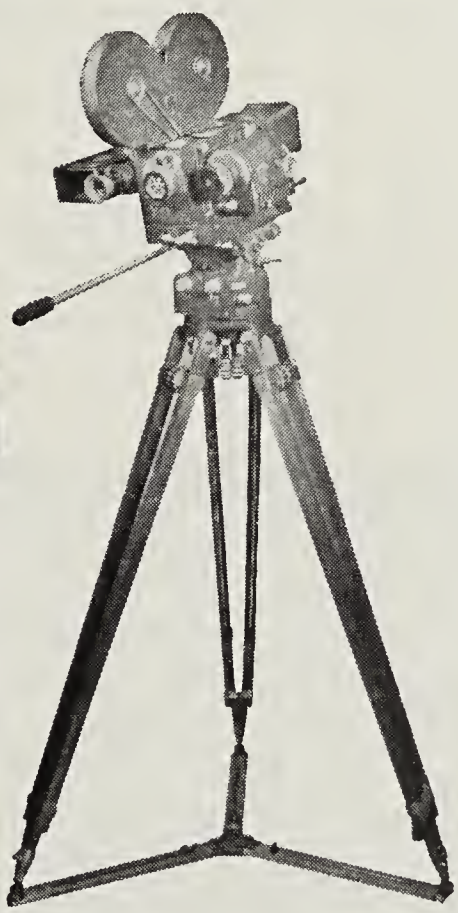
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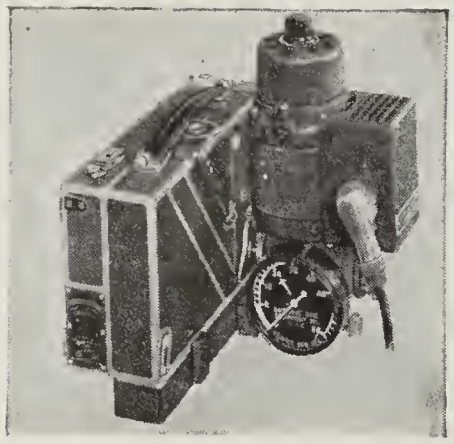
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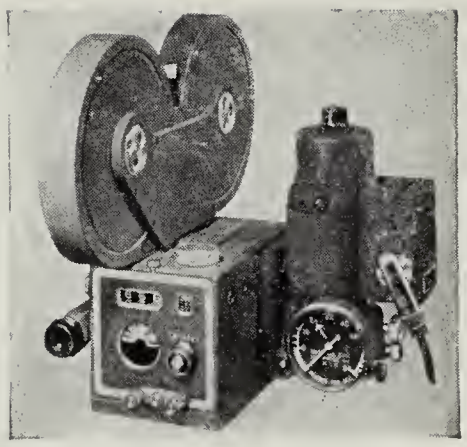
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camerawork. I never use formless shadow patterns to break up a bare expanse of wall, because I feel that they detract from the force of the composition. I believe that the role of the camera is to tell a story and not to call attention to itself.

MacDonald's long roster of films includes John Ford's "My Darling Clementine," "Call Northside 777," "Street With No Name," and the beautifully photographed super-western "Yellow Sky." The latter film is a masterpiece of outdoor photography—drawing its force from a combination of low wide-angle compositions and heavily filtered landscapes. It is also notable for its extensive use of infrared film for night shots, a technique which is by no means new but which has rarely been applied with such visual force and beauty.

Joe MacDonald lays no claim to any particular "style." But the objective observer will find in his photography a clean, modern approach—a forceful means of telling a screen story. That, in itself, is the finest kind of style.

THERE'S A FUTURE IN TELEVISION FILMS

(Continued from Page 126)

He cites a small Los Angeles packer presently marketing its dog food product exclusively in Southern California. The company, according to O'Connell, is making plans to compete in the national market and believes one of the best means of expanding its sales is via television. It is for this company that O'Connell has produced a series of one-minute spot announcements and has others on the planning board.

O'Connell's reputation as a cameraman who knows how to gear his cinematography to the economy of modest-budget feature films attracted the attention of William Cameron Menzies, famed Hollywood art director who also is avidly interested in television film production. Menzies, together with Rudy Maté, A.S.C., had developed an idea for a couple of television films based on Edgar Allen Poe's "Tell Tale Heart" and "The Case Of The Strange Bed." They engaged O'Connell to do the photography and the pictures were made at the Hal Roach studios in Culver City.

Later, with Bob Longnecker, O'Connell made a 27 minute "open end" television feature, "Your Witness," on speculation which, although not yet marketed, has been subjected to vigorous bidding by several national advertisers.

And thus was O'Connell introduced to photography for television. There was more to it, of course, than merely setting

up camera and lights and shooting scenes according to the producer's directions. His initial assignment with Maté and Menzies found him frequenting the television stations and nightly studying the reception of televised films. One of the first things he learned was that at present there is a dearth of advertisers willing to back up sponsored film production with substantial budgets. O'Connell forsees that for a long time to come, television films will have to be made economically and "down to a price;" and that the production spending so familiar in the studios is something television producers will have to struggle along without for some time to come. Eventually, O'Connell believes, when television becomes firmly established and sponsors strive to out-do each other in the class of entertainment offered television audiences, as they do in radio today, production of TV films and programs may approach the extravagant levels of motion picture production in the lush years.

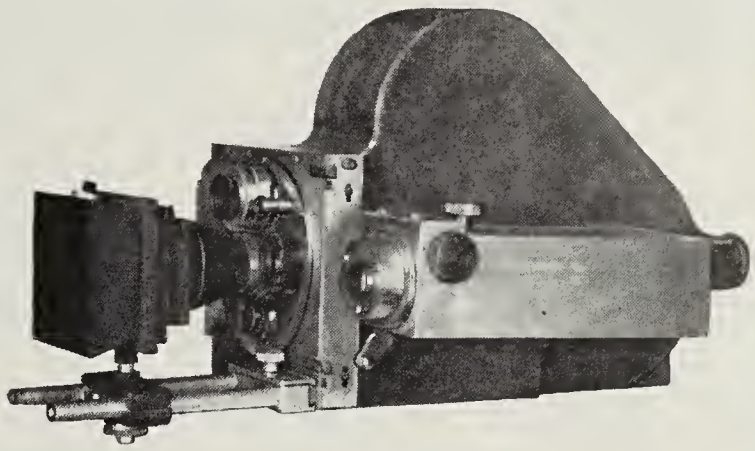
But in the meantime, he says, economy is the dominant factor in producing TV films. You cannot readily market a television film at prices ranging upwards of $5000. Some, with even more experience in the field than O'Connell, say that a price of $2.00 a foot is about tops being paid today for TV feature films.

To crack the market today, you've got to turn out a film with the photographic quality of a class A studio feature and sell it at poverty row prices. To do this it must be produced with expenses cut to the bone. O'Connell, schooled in budget film production, is well qualified to fit the role of today's TV film producer. He wrote, photographed, edited and supervised the sound recording of the series of dog food films. Renting camera equipment from Armitage in Hollywood, O'Connell staged his scenes at the Cinesound Studios on Santa Monica Boulevard. He cut his lighting bills to the bone using Color-Tran lighting units for all interior shots. All too frequently the studio cinematographer is considered a "single track" operator with no talent for other departments of film making. O'Connell's achievements disprove this theory.

"Hollywood's directors of photography," O'Connell says, "are best qalified to photograph television films because of their extensive training in lighting, which is so essential to TV film production, and because of their long association with the production of theatrical films."

As to the camera and lighting techniques best suited for TV films, O'Connell cites the necessity for avoiding cluttered backgrounds, keeping depth of focus sharp, and eliminating all distracting objects within the scene. He says that it is quite possible to ignore the pet theories advanced by many television men regarding the dangers of solid black areas, low

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DuPONT'S PHOTO PRODUCTS department has introduced a new low-contrast type 16mm. print stock, which provides lower gradation prints for television reproduction in comparison to the former standard 16mm. print quality. New film, designated as 628-A, requires standard laboratory processing.

•

JOSEPH A. MORAN, vice-president of Young & Rubicam ad agency, speaking before SMPE members at convention in New York early this month on subject of "Advertising and Sales Impact of Television" said, "To satisfy the sponsor and the advertising agency, a commercial film of 15 to 90 seconds duration on a television program must be of the best photographic quality and carry a potent advertising and sales impact." The talk was augmented by screening 15 to 90 second commercial spot announcement films.

•

RCA WILL DEMONSTRATE its new kinephoto system designed to record television images on film, at the Natl. Association of Broadcasters' convention April 6 to 13.

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JOE HERNANDEZ, famous horse race commentator, is dickering to put Agua Caliente and Tanforan races on television. Hernandez will photograph races in 16mm., give films quick processing, and put them on air same day—or evening.

•

IN LAYING PLANS FOR theatre television, a spokesman for 20th Century-Fox has stated: "We are being guided by one principle in this big-screen development work—namely to provide an 18 by 24 foot television picture of sufficient quality to warrant theatre operators charging admission to see it and to satisfy the theatre patrons that they are getting their money's worth."

•

HOLLYWOOD can make TV films just as economically as New York, says Harold Roach, adding that with proper cooperative working arrangements, Hollywood film makers can turn out video films to suit any of the N.Y. agencies "presently tending to discount our product."

•

KFI-TV, which went on daytime video March 1st, is aiming its programming to include 15-minute strip shows which can be presented without need for camera rehearsal.

key lighting, etc., and come up with a picture that televises satisfactorily. "If the monitoring engineers will just leave the controls alone, once they are set for a film," he says, "televised film results will prove acceptable in most instances."

Despite the part his ability as a successful motion picture cameraman played in introducing him to TV film production, O'Connell readily admits that luck played a part in gaining recognition for his first video film effort. His initial film for the dog food maker chanced to be on the desk of a television program director last Christmas day, when a switch in the station's plans left them without material to fill a cancelled spot announcement. The dog food commercial was quickly substituted and so impressive was the reaction that the sponsor, who had considered the initial film as a speculation project, commissioned O'Connell to proceed with a series of them.

TELEVISION RESEARCH REPORT

(Continued from Page 124)

"If you will avoid having on film those large expanses that invite the monitor to twist the dials and thereby introduce unwanted black shadows," Solow continued, "you are going to preserve the integrity of your photography. And specifically that means having the background broken up, not too busy necessarily, but with enough of its own subject contrast to avoid the spurious effects from the electrons; to avoid very bright highlights, and to keep the tonal range within the range of the television screen itself."

Concerning print quality in television films, Solow said, "It's silly to talk of making a print one printer-light point darker or one point lighter or just a little bit less contrasty than normal, because one point, two points or even five points one way or the other is hardly noticeable in the television process, and because what we would call a print five points above normal is very simply adjusted at the television station provided it isn't so light that all the highlights have lost whatever density they should have.

"That's the thing to avoid," Solow concluded, "making prints so light that nothing of the detail is left in the highlight areas."

Neil Nunan, A.S.C., associated with Ansco in Hollywood, then spoke to the assembly. "It is a good thing," he said, "when technical groups within the motion picture industry and the television industry get together to decide what the standards are to be for films for television."

"All of us who have been watching the development of television during the past few years," he continued, "have been impressed or depressed, as the case may be, by some of the quality of TV film transcriptions we have seen, and also by the quality of some live action pickups. Now it seems as though this can be pretty well related to a straight-forward engineering problem, and that the sooner various standards are tied down the sooner we are going to get fine quality on television screens. And one of the first places where quality is going to come is in tying down those standards which have to do with the TV transmitter. In other words we are looking forward to the day from the film manufacturing standpoint, and from the photography and the film processing standpoints, where the transmitter will look in a given direction towards the film or the image being received and always put the image on the air with the same fidelity and quality—totally erasing any interference of any technician who may be in the way."

"Members of the A. S. C.," Nunan continued, "have been responsible for safeguarding the quality of the most priceless asset the motion picture industry has, which is the star. Today we don't see important stars on the television screen for a very good reason, and that is because producers do not care to risk the prestige of their players in a medium the quality of which is not yet proven. Technically the medium is here. There isn't any doubt of that; but artistically it hasn't arrived. And it won't arrive until you directors of photography, with the help of the S.M.P.E. and the I.R.E., tie this thing together and put a truly artistic medium on the air."

Hal Mohr, A.S.C., also a member of the Society's Television Research Committee, spoke briefly on the cinematographer's place in the realm of television. "I see no problem that television has to present," said Mohr, "that cannot be met in a sensible, economical, sane artistic way. I don't think we have to sacrifice anything insofar as the use of our particular medium is concerned. I believe that the director of photography can do for the stars in TV what they have done for stars in motion pictures."

Sounding an optimistic note for the cinematographer, Mohr concluded, "I per-

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TURN TO PAGE 150

sonally believe that television is the greatest thing that's ever happened to the motion picture industry and for its cameramen, because the pictures that will be made henceforth will be aimed to compete with television and they are going to be so good that people will want to go to theatres to see them. As far as any loss in theatre business is concerned—if, indeed there is to be any such loss—this will be more than compensated for in the vast amount of pictures that the industry will be producing for television. I believe that 90% of the program material for television in the future will be produced on film. It will be made with the same class and quality as theatrical films, which should mean plenty of work for directors of photography."

CURRENT ASSIGNMENTS

(Continued from Page 118)

Henreid, Claude Rains. W. Dieterle, director.

R. K. O.

• HARRY WILD, "The Big Steal," with Robert Mitchum, Jane Greer, William Bendix, Patric Knowles, Ramon Navarro and Robert Qualen. Don Siegel, director.

• JOSEPH VALENTINE, "Love Is Big Business," with Claudette Colbert, Robert Young, George Brent and Max Baer. William D. Russell, director.

20th Century-Fox

• HARRY JACKSON, "Oh You Beautiful Doll," (Technicolor) with Mark Stevens, June Haver, Gale Robbins, S. Z. Sakall and Charlotte Greenwood. John Stahl, director.

• JOSEPH LASHELLE, "Everybody Does It," with Linda Darnell, Celeste Holm, Paul Douglas and Charles Coburn. Edmound Goulding, director.

• JOE MACDONALD, "Pinky," with Jeanne Crain, William Lundigan, Ethel Waters and Basil Ruysdael. John Ford, director.

• LLOYD AHERN, "Father Was A Fullback," (Technicolor) with Fred MacMurray, Maureen O'Hara, Betty Lynn, Rudy Vallee, Themla Ritter and Natalie Wood. Elliot Nugent, director.

• HARRY JACKSON, "Bandwagon," (Technicolor) with William Powell, Mark Stevens, Betsy Drake, Jean Hersholt. Irving Reis, director.

United Artists

• ROBERT DEGRASSE, "Home Of The Brave," (Screen Plays) with James Edwards, Lloyd Bridges, Jeff Corey, Frank Lovejoy and Douglas Dick. Mark Robson, director.

• LIONEL LINDON, "Quicksand," with Mickey Rooney, Jeanne Cagney, Peter

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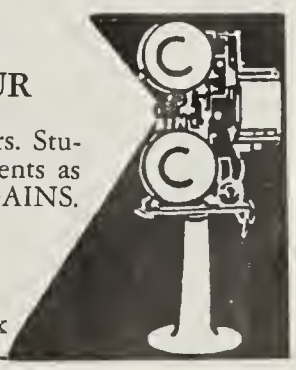
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• WILLIAM DANIELS, "The Western Story," with Yvonne DeCarlo, Charles Coburn, Scott Brady, et al. Frederick de Cordova, director.

• RUSSELL METTY, "Curtain Call at Cactus Creek," (Technicolor) with Donald O'Connor, Eve Arden, Vincent Price, Gale Storm and Walter Brennan. Charles Lamont, director.

• IRVING GLASSBERG, "Sword In The Desert," with Marta Toren, Dana Andrews, Stephen McNally, Hugh French, Jeff Chandler. George Sherman, director.

• FRANK PLANER, "Come Be My Love," (Neptune Films) with Robert Montgomery, Ann Blythe and Jane Cowl. Michael Gordon, director.

• MAURY GERTSMAN, "Partners In Crime," with Howard Duff, Dan Duryea, Shelly Winters, Gar Moore and John McIntire. William Castle, director.

Warner Brothers

• TED MCCORD "The Octopus And Miss Smith," with Jane Wyman, Dennis Morgan, Zachary Scott, Eve Arden, Fred Clark, Ray Montgomery and Janis Paige. Michael Curtiz, director.

Miscellaneous

• ROBERT PITTACK, Apex Films.
• FRED MANDL, Princeton Film Center.
• IRA MORGAN, Katzman Productions.
• JACK GREENHALGH, television films.

HOLLYWOOD BULLETIN BOARD

(Continued from Page 116)

VICTOR MILNER, A.S.C., will visit his son in Berlin next month and while there may produce a series of documentary films based on contemporary life in post-war Germany. His son is attached to the U. S. Airforce there.

•

RUSSELL METTY, A.S.C., attached a bicycle speedometer to the camera carriage while shooting scenes for Universal-International's "The Lady Gambles," and discovered that the camera was traveling more than a mile per day. The director, Michael Gordon, Metty explained, likes a "restless" camera—one that moves constantly in keeping with plot and character orientation.

•

LEON SHAMROY, A.S.C., for the past ten years a director of photography at Twentieth Century-Fox, has been re-signed by that company for another three years. Vincent Farrar, A.S.C., also had his contract renewed at Columbia Pictures, where he has been one of that company's leading directors of photography.

•

CAMERAMEN are enthusiastic about Altec-Lansing Corporation's new "dime-size" microphone recently unveiled in Hollywood and demonstrated in actual use at the Academy Awards presentation ceremonies. The miniature mike, which is about the size of a stack of six dimes, is noted for its extreme range and fidelity. The cameramen favor it because it portends the end of present cumbersome mikes that throw shadows, and unwieldy mike booms. It's priced at approximately $190.00.

•

ANSCOCOLOR is introducing a negative-positive type color film for feature film production. Company will make between 30 and 50 million feet of the new film available to Hollywood studios this year, promising a capacity of 100 million feet annually thereafter. New film differs from the Anscocolor reversible type recently used on "The Man On The Eiffel Tower." Use of new neg-pos color stock offers substantial savings in production costs, according to Ansco which states that laboratory processing charges for prints will be only a little more than current black-and-white costs.

Imagine!

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ColorTran Converter Company

7333 Santa Monica Blvd., Hollywood 46, Calif. Phone: GRanite 4461

SOUND FOR THE Roy Del Ruth production, "Red Light," shooting at Nassour Studios is being recorded on the new Western Electric synchronous magnetic film sound recorder. Medium used is a perforated film coated with a magnetic-sensitized material.

•

EASTMAN KODAK CO. will have test rolls of new Eastman neg-pos color film in hands of Hollywood studio camera department heads May 1st, for purpose of making tests. Company will not proceed with volume production plans until studio tests have been completed and any suggested improvements carefully evaluated and fitted into manufacturing plans. It will probably be a year before stock is available in quantity for feature production purposes, according to the company.

•

RECENT HOLLYWOOD visitor was Jack Draper, leading cinematographer of Mexico City, whose latest picture "Rancho Grande" is drawing rave notices in Latin America for the fine Cinecolor photography. Draper, who is about to undertake an independent production in 16mm. color, which he will photograph in Mexico with his Mitchell 16mm. professional camera, came to Hollywood to have tests developed and printed by the Eastman laboratories there.

•

TOM HUNT, head of Color-Tran Converter Company, has probably supplied the key to the big economy problem bedeviling Hollywood studios—the increasing cost of lighting indoor sets. Since Hunt's lighting equipment, which operates off ordinary 110-volt house current, proved its merit on Hollywood sound stages and television studios, more and more motion picture studios are conducting tests, some actually filming entire productions using Color-Tran lights. This has led to new explorations in lamp design by manufacturers which probably will lead to ultimate production of a new incandescent lamp for studio use working on same principle as present photofloods, but more durable and powerful.

TECHNICOLOR PHOTOGRAPHY UNDER WATER

(Continued from Page 122)

for parallels, crane or dolly. Besides, it enables working the camera in such broad movements without need for cumbersome tracks laid on the stage floor.

The elevator shaft is suspended from crane tracks that run the full length of the stage ceiling. The shaft may be moved the full length of the stage and its elevator may be raised or lowered to permit use of camera from ceiling height to a point three feet below floor-level of the stage. This equipment enabled Rosher to suspend his camera below the water line of the swimming pool in shooting some of the water ballet numbers.

To do this, he mounted the camera within a specially built underwater camera tank—a steel box approximately 40″ by 18″ by 30″, open at the top and fitted with a panel of optical glass in the front which provided a port for the camera lens. The tank was then mounted on the platform, moved out over the pool, and then lowered half way beneath surface of the water to record movements of the swimmers. Sometimes the camera would rise above the water level to catch Esther Williams and her water ballerinas as they executed the colorful routines, then submerge to show contrasting movement of the swimmers from a new and different angle.

In addition to the usual lights arranged about the set—there were some 200 massive spots hung from the catwalks alone—more than 100 highpower floodlights were placed in recesses along the walls of the pool below water level to furnish unique lighting for the water ballet routines.

Determining the correct exposure to use when the Technicolor camera was underwater naturally posed a problem, but one easily overcome by the resourceful and versatile Rosher. He had a large globular fish bowl set into a square panel of wood which he floated on the surface of the lighted pool. Lowering his Norwood exposure meter into the partially submerged fish bowl, Rosher was thus able to read his light values directly, obtaining an accurate reading from actual underwater position. This expediency saved much time that might otherwise have been consumed in shooting tests and waiting for them to be developed—a tedious matter where color photography is employed.

The set—the largest for the picture and one of the largest ever constructed on an indoor stage—represented the pool of an exclusive country club in the tropics. The stage even had a tropical air about it—the temperature being maintained in the eighties day and night for the comfort of the swimmers who were in and out of the water constantly.

MGM maintained laundry equipment on the stage to provide dry bathing suits and costumes for the girls. After each rehearsal or take the girls would remove and turn in their wet costumes in exchange for dry ones. Wet costumes were quickly dried and made available for use again.

Rosher and his assistants never had to make use of these facilities, thanks to the unique equipment that enabled them to photograph the entire water ballet sequence without getting more than their bare feet wet.

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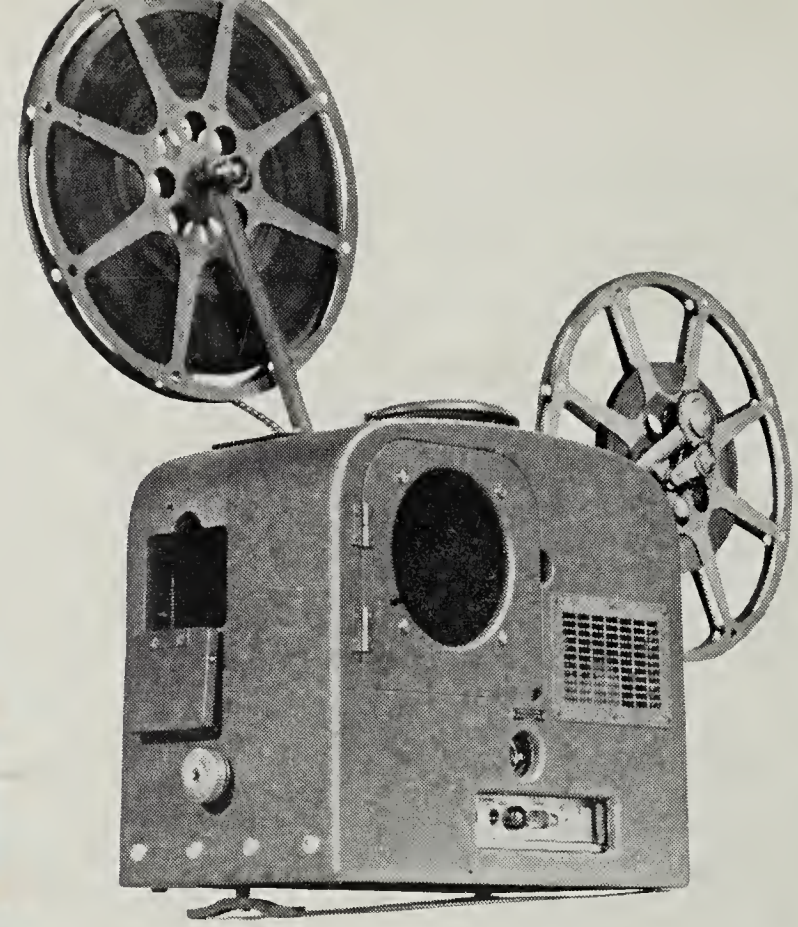
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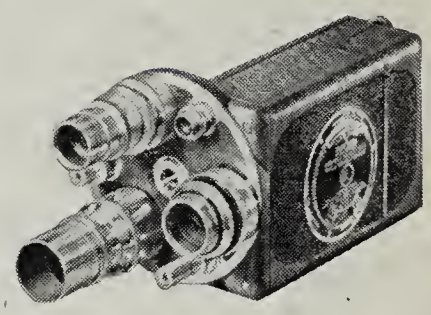
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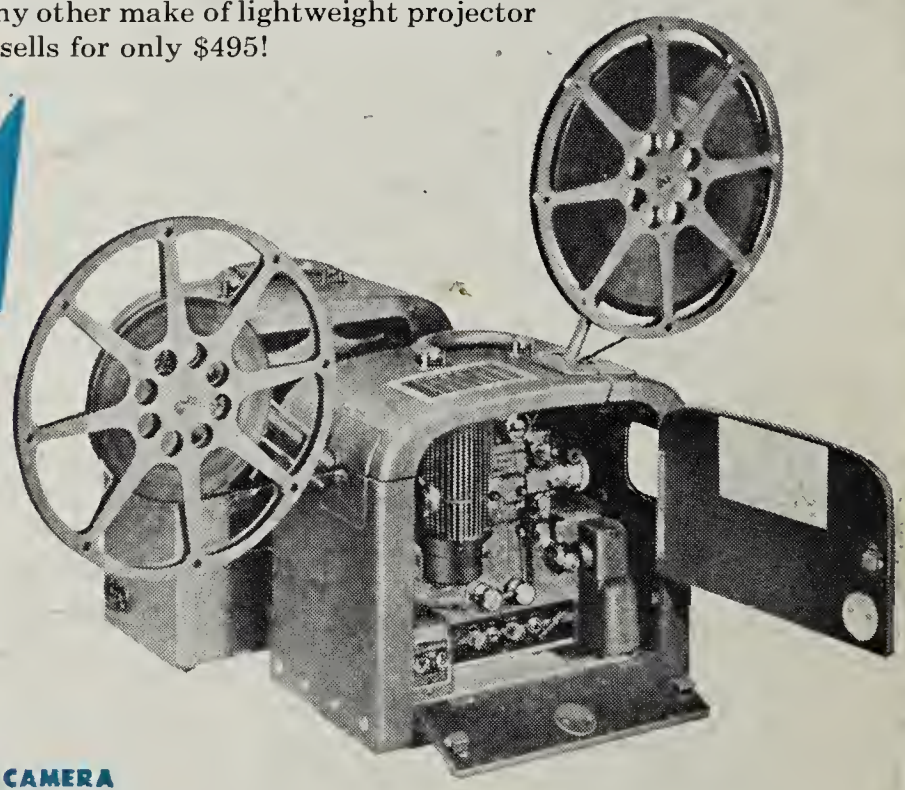
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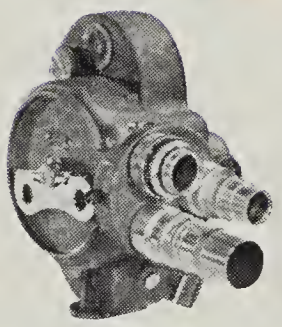
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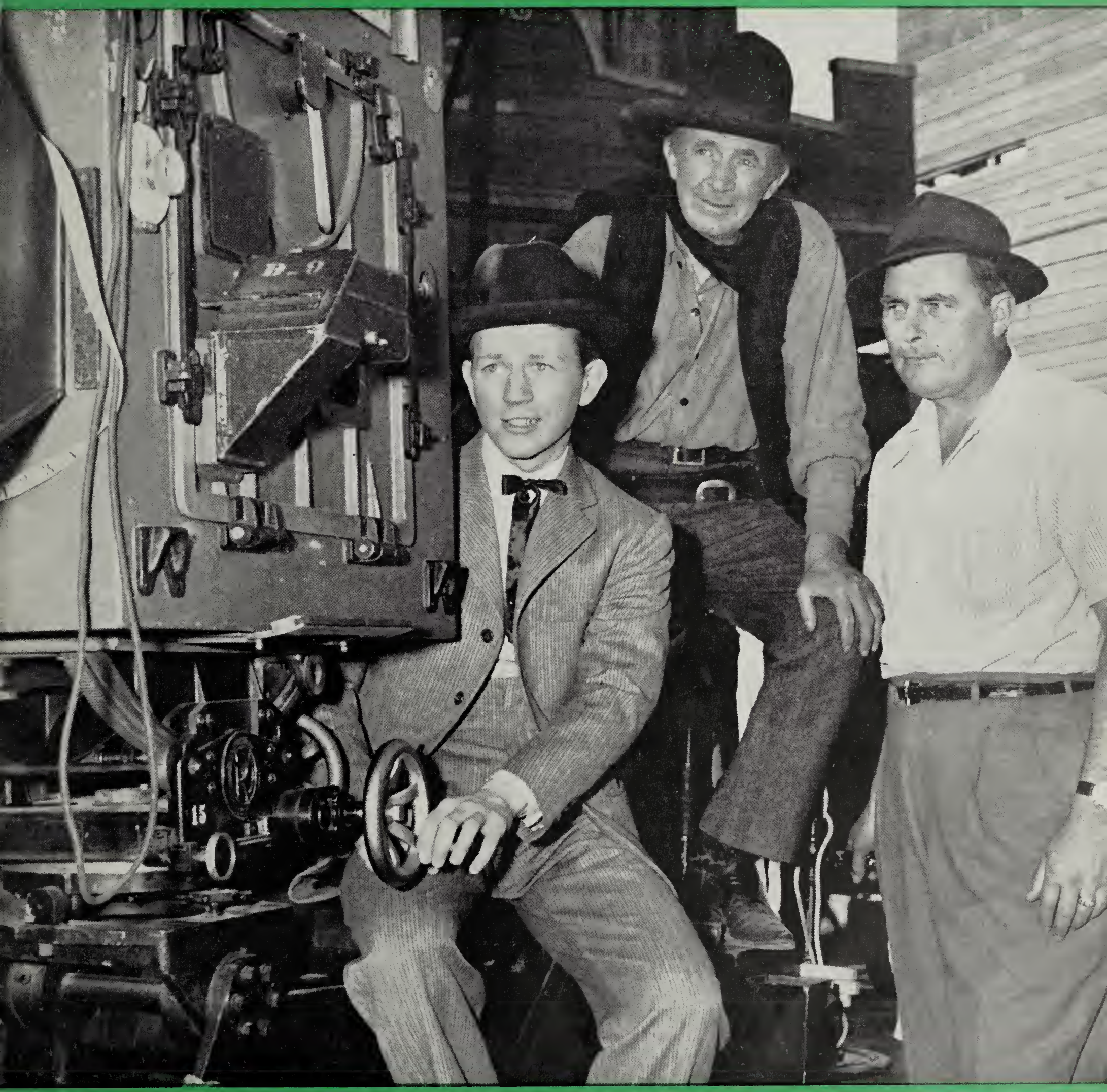
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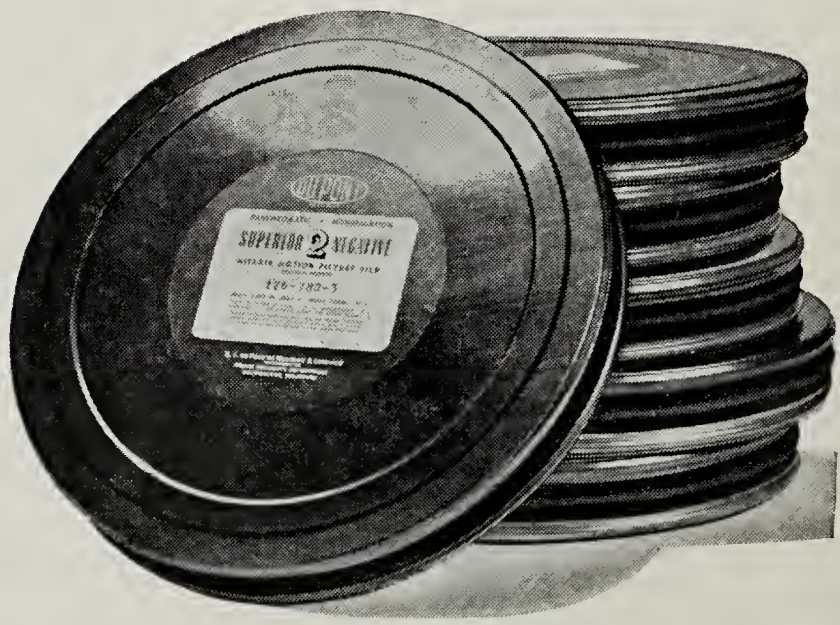
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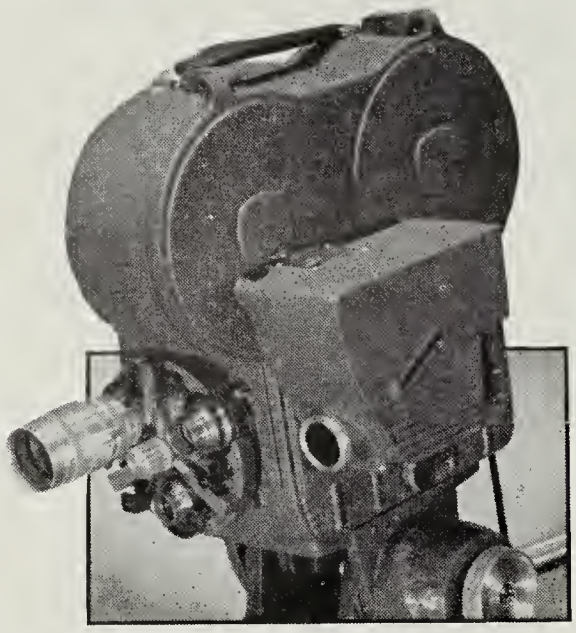
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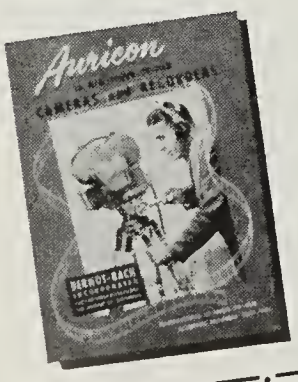
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Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

Columbia

• CHARLES LAWTON, "Miss Grant Takes Richmond," with Lucille Ball, William Holden, Janis Carter and James Gleason. Lloyd Bacon, director.

• BURNETT GUFFEY, "The Blank Wall," (Walter Wanger Prodn.) with James Mason, Joan Bennett and Geraldine Brooks. Max Opuls, director.

• CHARLES LAWTON, "Lawless," with Randolph Scott, Dorothy Malone, Jeff Corey, Forest Tucker and Frank Faylen. Gordon Douglas, director.

• RAY CORY, "Lawless, "2nd unit.

• IRA MORGAN," The Adventures Of Sir Galahad," (Esskay) with George Reeves, Nelson Leigh, Pat Barton and Hugh Prosser. Spencer Bennet and Derwin Abrahams, directors.

• LESTER WHITE, "The Adventures of Sir Galahad," 2nd Unit.

• VINCENT FARRAR, "Blondie's Hero," with Penny Singlton, Arthur Lake, Larry Simms, Marjorie Kent and Jerome Cowan. Edward Bernds, director.

• JOSEPH WALKER, "My Next Husband," with Rosalind Russell, Robert Cummings, Gig Young, Marie McDonald and Harry Davenport. Norman Foster, director.

Independent

• JOE BIROC, "Mrs. Mike," (Sam Bischoff Prodn.) with Dick Powell and Evelyn Keyes. Louis King, director.

M-G-M

• CHARLES ROSHER, "The Red Danube," with Walter Pidgeon, Peter Lawford, Janet Leigh, Ethel Barrymore and Angela Lansbury. George Sidney director.

• ROBERT SURTEES, "Intruder In The Dust," with Claude Jarman, Jr., David Brian, Juan Hernandez, and Charles Kemper. Clarence Brown, director.

• HAROLD ROSSON, "On The Town," (Technicolor) with Frank Sinatra, Gene Kelly, Vera Ellen, Ann Miller and Betty Garret. Gene Kelly, director.

• PAUL VOGEL, "Battleground," with Van Johnson, John Hodiak, Ricardo Montalban, George Murphy, Marshall Thompson, Tommy Breen, Jim Mitchell, Bruce Cowling and Denise D'Arcele. William Wellman, director.

• HARRY STRADLING, "Annie Get Your Gun," (Technicolor) with Judy Garland, Howard Keel, Keenan Wynn, Frank Morgan, Edward J. Arnold, J. Carroll Naish and Clinton Sunberg. Busby Berkeley, director.

• RAY JUNE, "Death In The Doll House," with Ann Sothern, Zachary Scott, Gigi Perreau, Nancy Davis, Kristine Miller and Tom Hellman. Pat Jackson, director.

• JOE RUTTENBERG, "Side Street," (shooting in New York) with James Craig, Farley Grainger, Paul Kelly and Cathy O'Donnell. Anthony Mann, director.

Monogram

• WILLIAM SICKNER, "Safety Pins," with Leo Gorcy and Annabelle Shaw. Reginald LeBorg, director.

• HARRY NEUMANN, "The Kid Came West," with Johnny Mack Brown, Max Terhune and Reno Browne. Ray Taylor, director.

(Continued on Page 183)

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The Society meets regularly once a month at its clubhouse at 1782 North Orange Drive, in the heart of Hollywood. On November 1, 1920, the Society established its monthly publication "American Cinematographer" which it continues to sponsor and which is now circulated in 61 countries throughout the world.

Dominant aims of the Society are to bring into close confederation and cooperation all leaders in the cinematographic art and science and to strive for pre-eminence in artistic perfection and scientific knowledge of the art.

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Editorial and Business Office: 1782 N. Orange Dr., Hollywood 28, Calif.
Telephone: GRanite 2135

VOL. 30 MAY • 1949 NO. 5

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COVER PHOTO

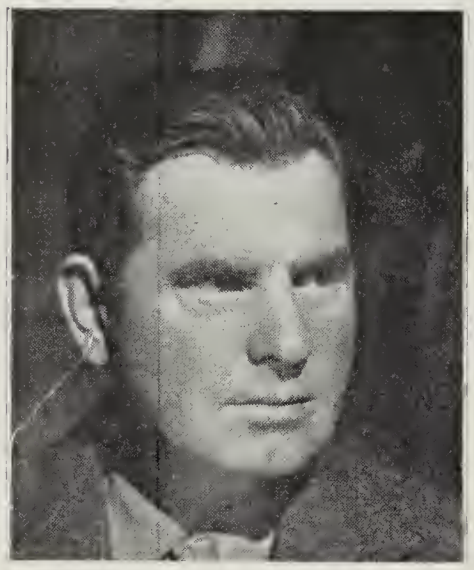
RUSSELL METTY, A.S.C., (striped Shirt) gives Donald O'Connor and Walter Brennan some pointers in lining up a shot with the Technicolor camera. "Gosh, even the viewfinder image is in Technicolor!" exclaimed O'Connor who has just completed one of the best roles of his career in Universal-International's "Curtain Call At Cactus Creek," in which Brennan also appears.—Photo by Sherman Clark.

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1949 by A. S. C. Agency, Inc. AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.

Hollywood
Bulletin Board

Charles Clarke Re-elected A.S.C. President

Jackman, Edeson, Skall, Rennahan and Boyle also returned to office for 1949-50. Folsey new vice-president.



Charles G. Clarke, A.S.C.

THE AMERICAN Society of Cinematographers, last month, re-elected Charles G. Clarke to a second term as its president. Also re-elected for the 1949-50 term were Fred W. Jackman, executive vice-president and treasurer; Arthur Edeson, 1st vice-president; William V. Skall, 3rd vice-president; Ray Rennahan, secretary; and John Boyle, sergeant-at-arms. George Folsey, previously on the Board of Governors, was elected 2nd vice-president. Victor Milner was elected a member of the Board of Governors.

Complete Board of Governors for the coming year—in addition to the officers named above — will include Sol Polito, Alfred Gilks, Charles Rosher, Lee Garmes, John Seitz, Leon Shamroy, Joseph Walker, and Victor Milner. Alternate Board members, elected to serve for a period of one year, and who will function when various regular Board members are absent, are John Arnold, Sol Halprin, Arthur Miller, Hal Mohr and Joseph Ruttenberg.

The re-election of virtually the entire A.S.C. Board of Governors and its officers was the result of the Board's excellent work during the past year, which saw monthly meetings greatly improved, both in quality of entertainment and technical value, and the completion of the A.S.C.'s projection facilities which now will add the luxury of motion pictures, both 16mm. and 35mm., to the list of privileges afforded members. Special credit is due president Clarke and executive vice-president Fred Jackman for the success of the latter project, for it was they who, once mandated by the membership, gave unstintingly of their time, worked diligently on plans for the new projection booth and the necessary auditorium alterations, and supervised the project to early completion.

President Clarke is recognized as one of the ablest of Hollywood's directors of photography. Under contract to Twentieth Century-Fox studios for many years, he will be remembered for his excellent Technicolor photography on such pictures as "Captain From Castile," "Green Grass of Wyoming," and the current Fox hit, "Sand." He is currently scheduling the photography on another Fox epic and only recently returned from Borneo where he filmed background material for the picture.

Clarke became a member of the A.S.C. in 1925 and shortly thereafter was elected a member of the Board of Governors. With the exception of a few years, he has been on the Board continuously and has served as an officer most of the time. He has been a tireless worker in the interests of the Society and much of the A.S.C.'s progress in recent years is due to his conscientious and ceaseless efforts.

Clarke firmly believes that continued progress of the American Society of Cinematographers depends upon the wholehearted support and cooperation of the entire membership, with the counsel and guidance of the Board of Governors.

In accepting his re-election, President Clarke stated: "I am greatly honored that the A.S.C. has selected me as its president for a second term and I am happy in the thought that I shall be able to continue working with the same men who have worked so harmoniously together during the past year in furthering the progress of the Society. I feel sure that greater progress and more accomplishments lie ahead for us, and I look confidentally toward this goal in accepting the high office again entrusted to me."

In unanimously re-electing Fred Jackman executive vice-president and treasurer for the sixth consecutive year, the Board of Governors expressed in deed its sincere appreciation for his enthusiastic and capable direction of the Society's affairs which has been greatly responsible for the progress of the organization. Although Fred Jackman's background is substantially that of his colleagues, his experience as an executive began years ago and his talents for directing business affairs gained him recognition when at Warner Brothers studio he set up that company's special effects department, planning and later building much of its equipment.

•

LLOYD KNECHTEL, A.S.C., who did special effects photography on the as yet un-released "Alice in Wonderland," filmed in Ansco Color in Europe, has joined forces with Al Schmidt to operate a special effects and optical printing enterprise for independent producers. Headquarters will be at Samuel Goldwyn studio.

•

FRANK PLANER, A.S.C., having completed photography on Universal-International's "Come Be My Love," is preparing to embark for an extended holiday in Europe.

•

THE S.M.P.E.'s 66TH semi-annual convention will be held at the Hollywood Roosevelt Hotel in Hollywood, October 10 to 14 of this year.

•

CONSOLIDATED FILM Laboratories, after making satisfactory tests with DuPont's new color print stock, is re-tooling to handle processing of the new DuPont stock in both its Hollywood and Fort Lee plants.

•

PAUL MANTZ is piloting camera plane for the air sequences being shot in Florida for Darryl Zanuck's "Twelve O'Clock High."

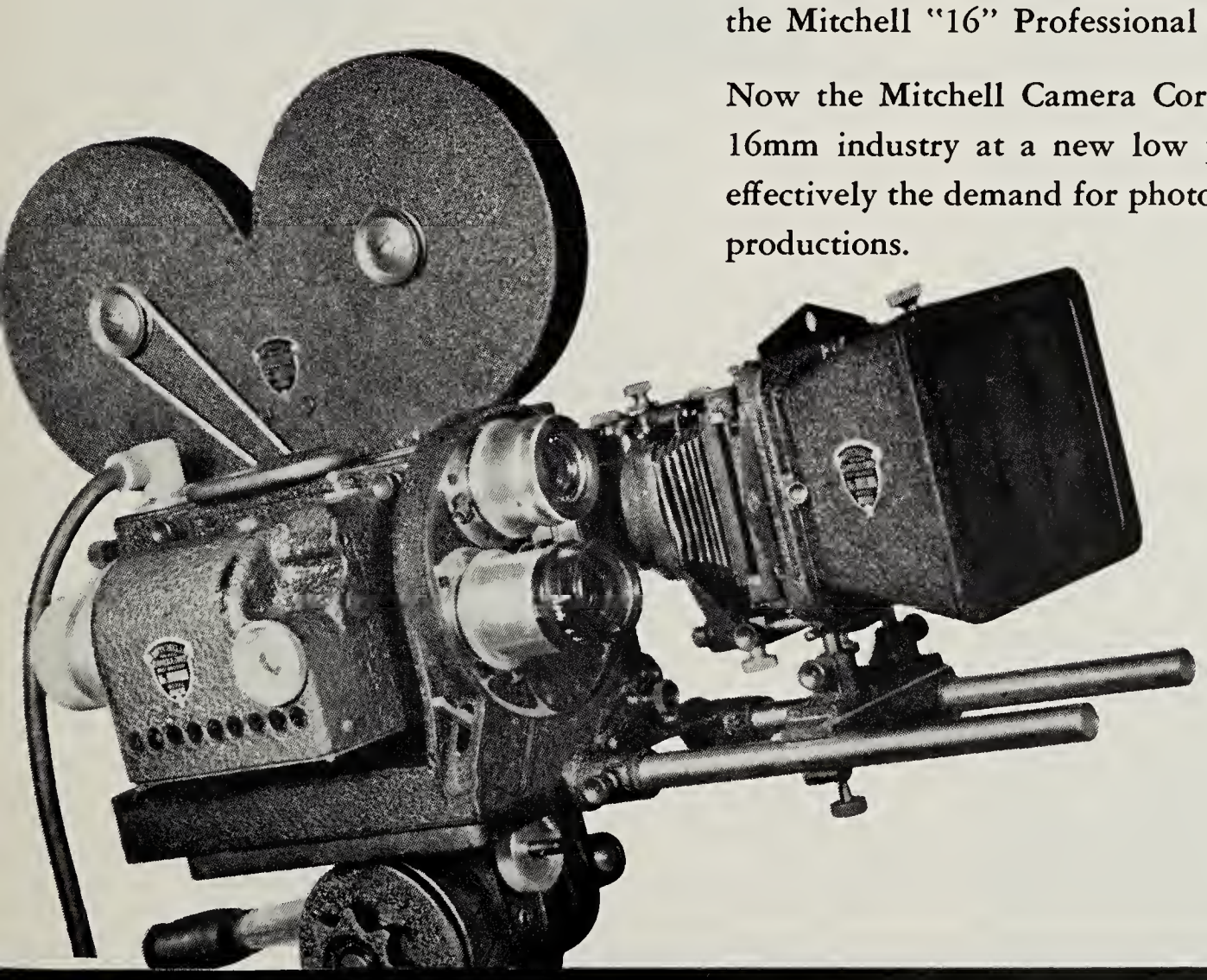
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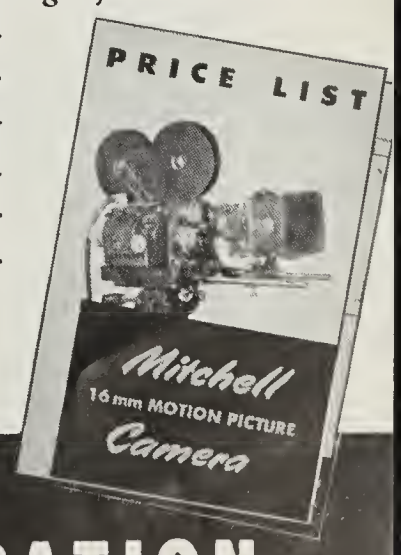
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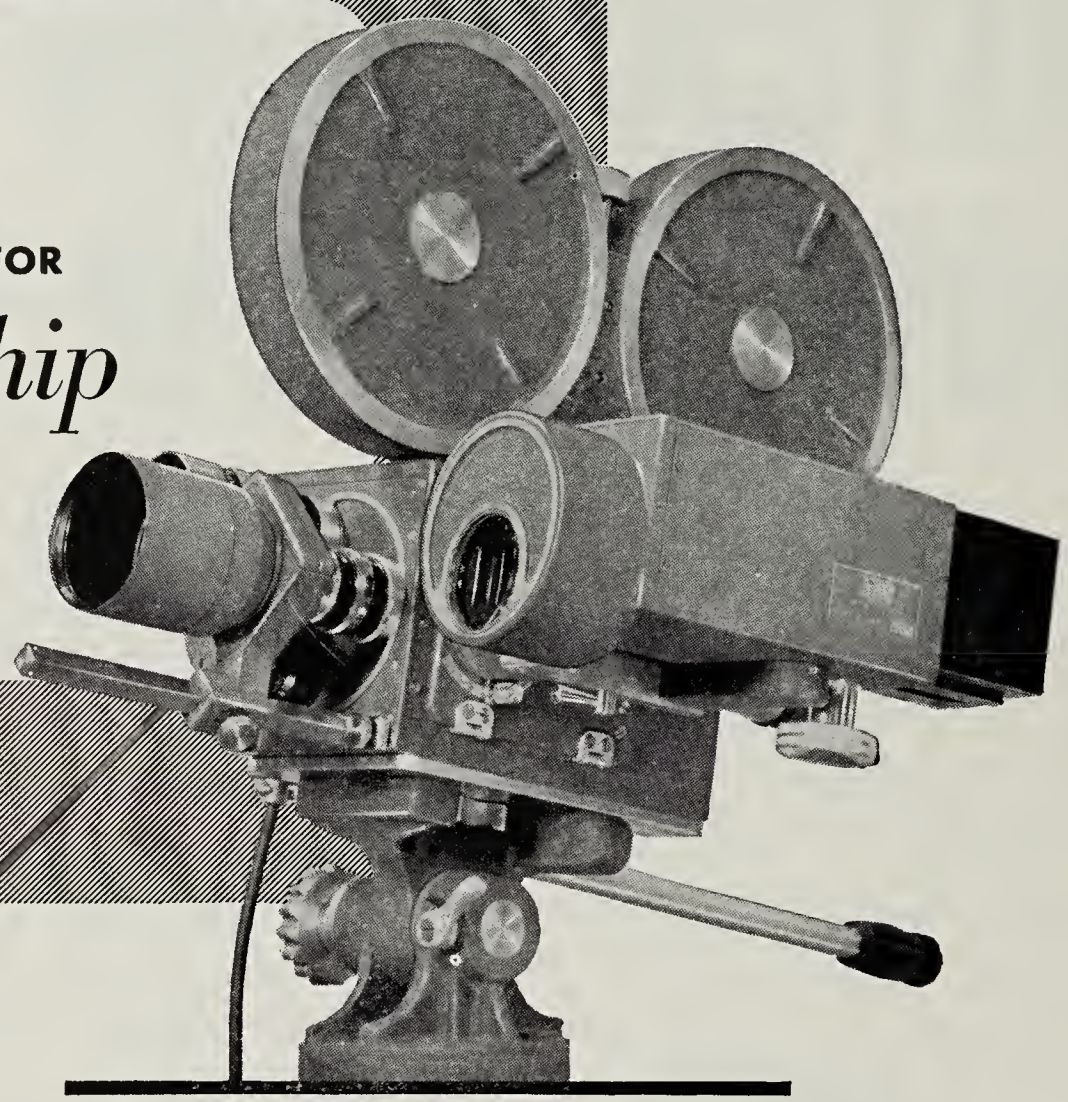
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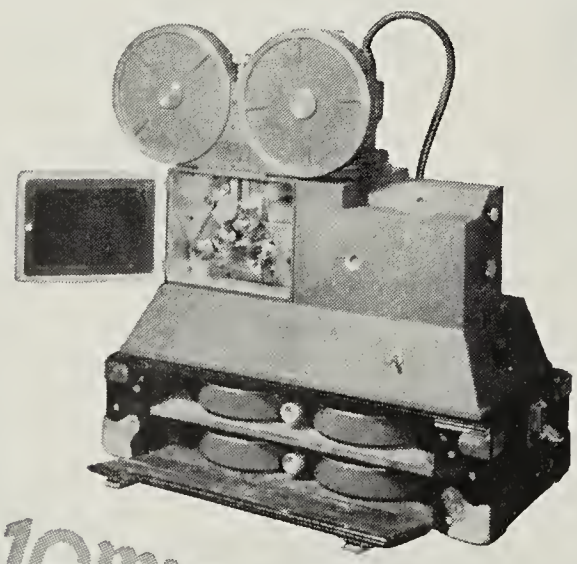
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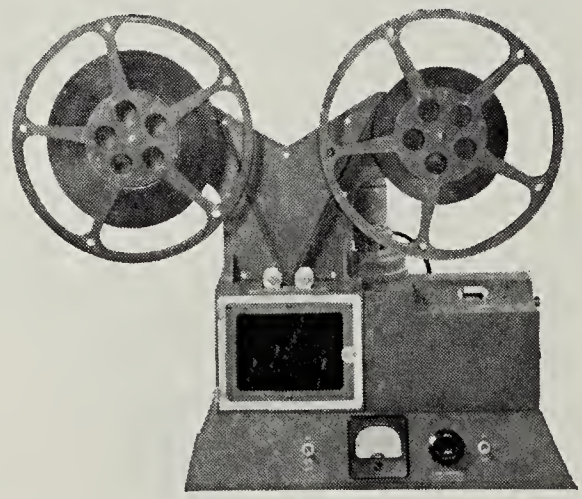
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Documentary Style

Maury Gertsman, A.S.C., finds that shooting pictures in actual locales affords the cinematographer refreshing new fields for camera artistry.

By HERB A. LIGHTMAN



TYPICAL of the actual locales in which Maury Gertsman photographed scenes for "City Across the River" is this Brooklyn, N. Y., rooftop. Sunlight reflectors replaced the booster lights that ordinarily would be used on a similar studio lot exterior.



M. Gertsman, A.S.C.

THE AWARD of an Academy "Oscar" to William Daniels, A.S.C., for his black and white photography of Mark Hellinger's "The Naked City" is a most welcome nod of approval for the documentary style of photography that has characterized some of Hollywood's outstanding photoplays during the past two years. Besides being perfectly tailored to the newsdrama type of screen story, this realistic photographic style proves that Hollywood's cinematographers are not dependent upon the sound stages and studio back lots, but are capable of producing high quality photography in actual far-flung locales while using the barest necessities of equipment.

The latest film to use this scene-of-the-crime lens technique is "City Across the River," Universal-International's absorbing story of juvenile delinquency. Photographed with realistic force by Maury Gertsman, A.S.C., it is a tautly paced drama of juvenile violence and crime set against a background of tenements and teeming streets.

In order that the backgrounds might be absolutely authentic, the cast and crew junketed to New York and spent eight days in Brooklyn shooting all of the exteriors and process shots and some of the interiors as well. The company traveled light. A skeleton crew of technicians from Hollywood formed a nucleus for the operating staff. Only the barest necessities of equipment were transported across country, the lighting units being rented in the locale itself.

The action of the story takes place in a good-sized segment of Brooklyn. The locations included tenements on South Third Street, crowded blocks on busy Havemeyer Street, the Marine Parkway Bridge, Prospect Park and Boys High School. For director of photography Gertsman the assignment proved a challenge in several ways.

The foremost problem was not a technical one, but rather a dilemma resulting from natural human curiosity. Wherever the U-I camera crew set up, the area immediately began to teem with curious onlookers. "I don't know where they all came from," Gertsman recollects. "They came piling out of houses and tenements, ganging up in front of the camera despite the efforts of police to hold them back. Some of them weren't very polite either. One gang of kids kept throwing

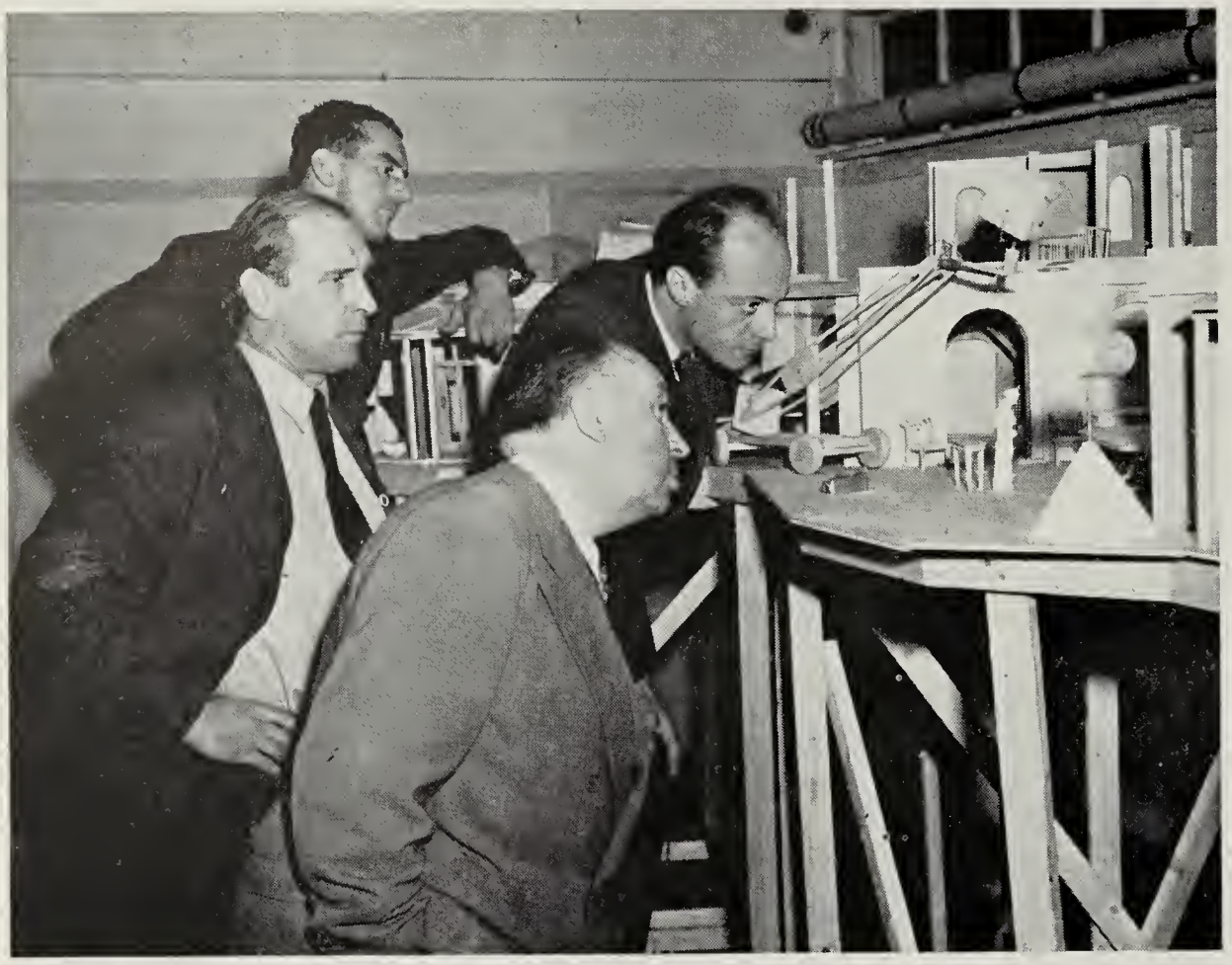
(Continued on Page 174)



GERTSMAN'S big problem was not a technical one, but rather a dilemma resulting from natural curiosity. Wherever he set up his camera, the sight attracted onlookers. One gang of kids kept throwing prune pits in the dolly tracks.



THERE ARE many night scenes in the picture and these were shot using conventional floods. Special lights were set up in store windows to further enhance the realism of sidewalk scenes after dark—a realism that Gertsman achieved with remarkable accuracy.



ALFRED HITCHCOCK (foreground) **believes in thorough planning of a picture before putting it before the cameras. He is shown here with Jack Cardiff, A.S.C., and two associates planning camera angles for a sequence in "Under Capicorn," produced in England. Scale models of principal interior sets afforded pre-shooting visualization of action and camera placement.**

Production Methods Compared

The motion picture is not an arena for a display of techniques, says Alfred Hitchcock, adding that techniques often must be sacrificed or compromised when they interfere with the story itself.

Condensation of a paper presented at a recent meeting of British cine technicians by

AFRED HITCHCOCK

THE FILMING of each picture is a problem in itself. The solution to such a problem is an individual thing, not the application of a mass solution to all problems.

Something I do today makes me feel that the methods I used yesterday are out of date, and yet tomorrow I may be faced with a problem which I can best solve by using yesterday's methods. That is why I try to make my first rule of direction—flexibility.

Next, I try to make it a rule that nothing should be permitted to interfere with the story. The making of a picture is nothing but the telling of a story, and the story—it goes without saying—must be a good one. I don't try to put onto the screen what is called "a slice of life" because people can get all the slices of life they want out on the pavement in front of the cinemas and they don't have to pay for them.

On the other hand, total fantasy is no good either—I'm speaking only for myself remember—because people want to connect themselves with what they see on the screen.

Those are all the restrictions I would place on the story. It must be believable, and yet not ordinary. It must be dramatic, and yet lifelike. Drama, someone once said, is life with the dull spots removed.

Now, having got our story—what next? Obviously we must develop our characters and develop the plot. All right, let's say that's been done. It may be putting a year's work in a few words, but let's say it. Are we ready to go on the floor? No, because our picture is going to need editing and cutting, and the time for this work is right now. The cuts should be made in the script itself, before a camera turns, and not in the film after the cameras have stopped turning.

More important, if we shoot each scene as a separate entity out of sequence, the director is forced to concentrate on each scene as a scene. There is then a danger that one such scene may be given too great a prominence in direction and acting, and its relation with the remaining scenes is out of balance, or, again, that it hasn't been given sufficient value and when the scene becomes a part of the whole, the film is lacking in something.

You are all familiar with the "extra shots" that have to be made after the regular schedule is completed. That is because, in the shooting of the scenes, story points were missed. The extra, expository shots are generally identified by an audience for what they are—artificial devices to cover what had been overlooked in the preparation of the film.

Now, how can this be avoided? I think it can best be avoided if a shooting script is edited before shooting starts. In this way, nothing extra is shot, and, most important, story points will be made naturally, within the action itself.

Let me give an example of what I mean. Let's suppose that our story calls for two scenes in a certain street, one a view of a parade going by, and the other —several days later in our plot—being an intimate conversation between two people walking along the pavement. We shoot the scenes on different days, the parade a long shot, and the conversation a close-up. Now, after we've finished our scenes, we discover that the locale of the conversation is not quite clear to the audience. We must now shoot another long shot of that street which we will tack onto the front of the conversation merely to identify the street.

That "identifying long shot," in this case, is an unnecessary one. Because it's not really needed, it's awkward. If we'd seen to it that the script had been given expert editing before the film went on the floor, we would have found some way to identify the street within the structure of the conversation itself. Or, better still, since the parade scene is a long shot, we could have tried, at least, to combine the two. In this way, the parade would serve a dual purpose, its plot purpose, and its expository one.

Another example: if we do not edit before we shoot, we may be faced, in the

cutting room, with one of the nastiest of all editorial problems—the unexplained lapse of time. Our characters speak on Monday, and then speak again on the following Monday. That a week has gone by may be essential to our plot, but we may have failed to make it clear in the sequences we have shot. There was a time—long since past—when we would simply have photographed the words "One Week Later" in transparency and caused them to appear on the screen in mid-air during the second scene.

The lapse of time can easily be indicated by the simple method of shooting one scene as a day scene and the next as a night scene, or one scene with leaves on the trees and the next one with snow on the ground. These are obvious examples, but they serve to illustrate what I mean by editing before production commences.

I try never to go to the floor until I have a complete shooting script, and I have no doubt everyone else tries to do the same thing. But, for one reason or another, we often have to start with what is really an incomplete script.

The most glaring omission in the conventional script, I believe, is Camera Movement. "Jane embraces Henry," the script may read. But where is the camera while the two have their fun? This omission is of very great importance. Of course, the director may decide how he is going to film the embrace "when the time comes," as the story conference idiom has it. But I think the time is before shooting. And here we come face to face once again with the fact that the tendency today is to shoot scenes and sequences and not to shoot pictures. The embrace can be shot from the front, from either side, or from above. If we are really going to be arty about the thing, it can be filmed from behind. But when we make that concession we are speaking only of the embrace by itself, and not as part of a sequence which is, itself, part of a picture which ought to be a dramatic whole. The angle from which that embrace is to be shot ought to flow logically from the preceding shot, and it ought to be so designed that it will fit smoothly into whatever follows it, and so on. Actually, if all the shooting is planned and incorporated into the script, we will never think about shooting the embrace, but merely about shooting a picture of which the embrace is a part.

I've taken a long time to get around to telling you that I favor shooting pictures in sequence. After all, the film is seen in sequence by an audience and, of course, the nearer a director gets to an audience's point of view, the more easily he will be able to satisfy an audience.

A picture maker need not try to please everyone, of course. It is important to me,

(Continued on Page 182)

Calibration Of Photographic Lens Markings

National Bureau Of Standards announces convenient graphic method for converting lens speed markings to corresponding "effective f/ markings."

IN THE COURSE of an experimental study of errors in the speed markings of photographic lenses, Dr. F. E. Washer of the National Bureau of Standards has devised a convenient graphic method[1] for converting each of these markings for a given lens to the corresponding "effective f/ number"—an f/ number corrected for light losses within the lens. In this way it is possible to calibrate a lens so that losses of light from absorption, reflection, and scattering within the lens are taken into account, and a more accurate control of the amount of light admitted to the exposed film is obtained.

In recent years, photographic technology has largely developed from an empirical art to an exact science, making it possible for both the professional and the skilled amateur to control their results in a more scientific manner. With this progress, a demand has arisen for greater precision in the speed marking of lenses. The method now in general use is based entirely on the ratio of the equivalent focal length of the lens to the diameter of the aperture. This ratio—

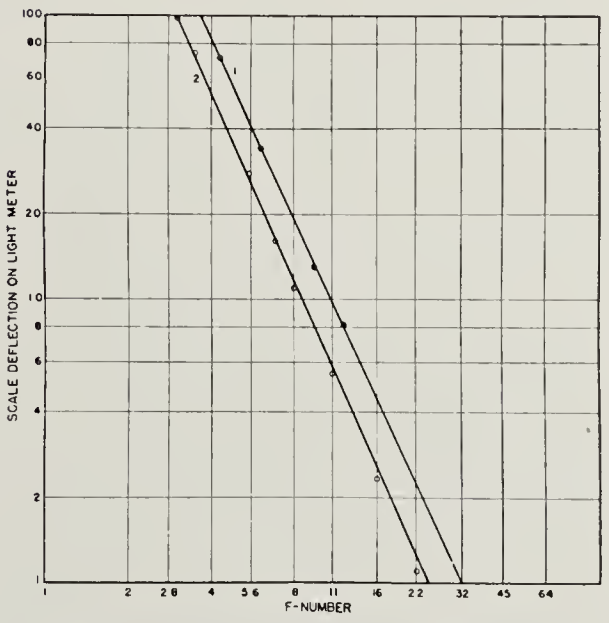


FIG. 1—Graphic method devised by N.B.S. for conversion of lens speed markings to "effective f/ numbers" is illustrated for a typical lens. In curve 1, scale deflections of a light meter are plotted against corresponding f/ numbers of a series of standard diaphragms. Curve 2 is plot of meter readings against marked f/ numbers of lens.

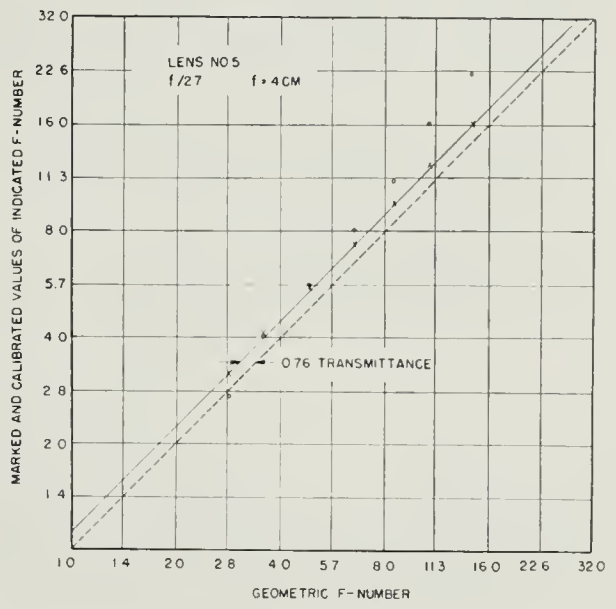


FIG. 2—Logarithmic paper is used so that intervals between successive stop openings may be equal. Circles indicate marked f/ number; crosses indicate calibrated f/ numbers or "transmission" numbers.

known as the f/ number—gives no consideration to the great differences in the useful light transmitted by various lenses.

To correct the situation, several new methods of marking lens diaphragms have been proposed which give weight to the variations in the loss of light for different lenses. Not long ago, Dr. I. C. Gardner of the National Bureau of Standards developed a method[2,3] of testing the marked diaphragm openings so that values which entirely compensate for differences in transmission can be obtained and applied to the scale of f/ numbers on a photographic lens. In this system the markings, known as effective f/ numbers or t/ numbers, are obtained by means of a photoelectric cell and a relatively simple photometric procedure, in which the diaphragm of the lens to be calibrated is adjusted to transmit the same amount of light as as similarly placed opening of standard size. The standard opening corresponds to an ideal lens on a given aperture ratio, in which incident light is wholly transmitted. A complete calibration is obtained by the use of a series of openings of graduated size corresponding to various aperture ration values.

(Continued on Page 177)

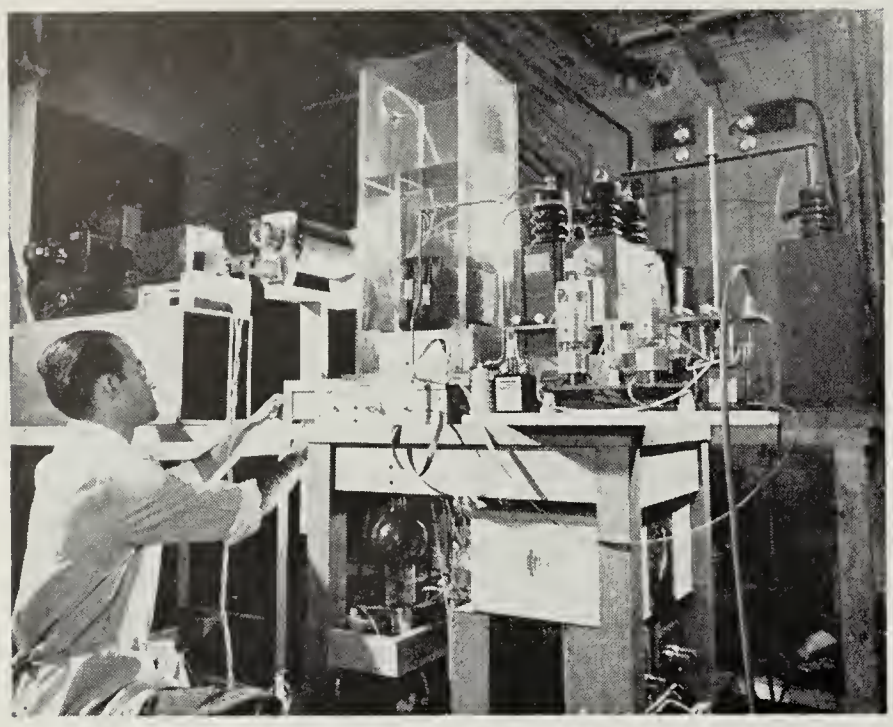


FIG. 1—Setting up preparatory to the taking of high-speed X-ray movies in the Westinghouse Lamp Division research laboratory. The high-speed oscillograph-type camera may be seen immediately above technician, at far left.

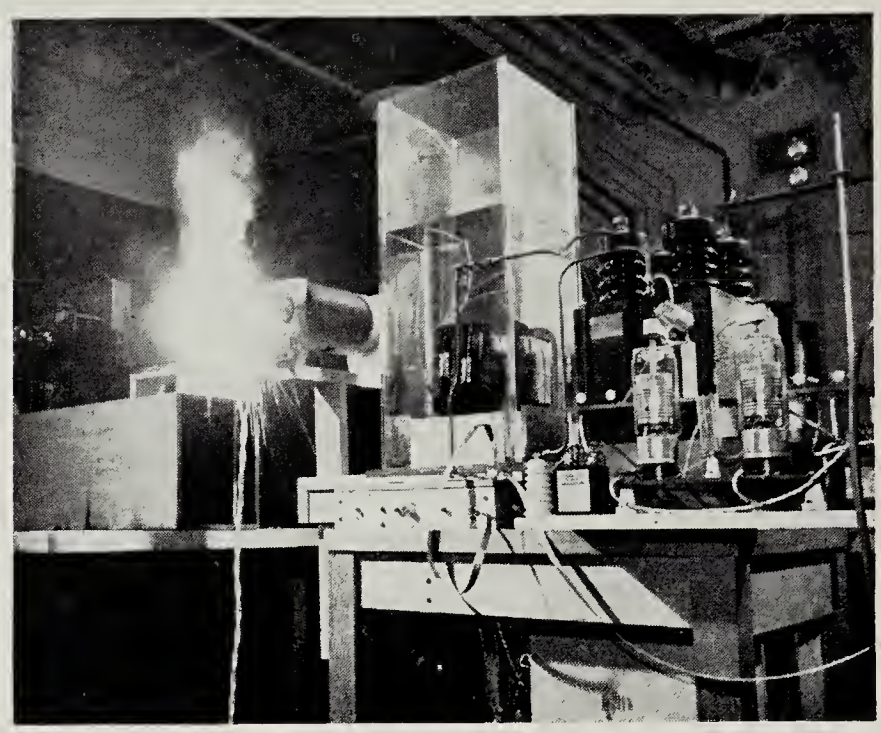


FIG. 2—Exposures of ten-millionths of a second were made at rate of 100 per second to photograph the melting phenomenon occuring when a mixture of iron oxide and aluminum is ignited.

High-speed Cineradiography

Development of super-speed X-ray motion pictures opening fascinating new visual worlds to science.

By HAROLD M. GROOMS

A NEW PROCEDURE that brings to X-ray analysis the same advantages that slow-motion movies bring to sports events is the result of recently perfected super-speed X-ray motion pictures. Developed in the Westinghouse Lamp Research Laboratories in Bloomfield, New Jersey, super-speed X-ray movies team up X-ray exposures of 10 millionths of a second and a shutterless camera shooting movies at 100 frames a second.

Dr. Charles M. Slack, director of research for Westinghouse's lamp division, said, "This X-ray 'eye' can analyze the internal structure of rapidly moving objects and human organs. With exposures of such rapidity—200 times faster than a person blinks—we are able for the first time to make X-ray movies of speeding objects without blur."

The X-ray exposures, repeated at one-hundredth of a second intervals, are recorded on a continuously moving strip of 35mm. movie film. To illustrate the new technique, Dr. Slack recently showed a group of physicists the "shortest short ever photographed," a 15-second X-ray movie sequence made by members of his staff. Their subject was a violent chemical reaction which took place in a crucible the size of a demi-tasse cup. The reaction pictured actually took one second, but the high speed camera and use of ultra-rapid X-ray exposures enabled the action to be so photographed it could be slowed down when presented on the screen. With this technique, Dr. Slack pointed out, rapid action, which would be impossible to analyze at its normal speed, can appear on the screen in comfortably-observed slow motion just as in an ordinary movie.

The reaction shown occured when a mixture of iron oxide and aluminum, ingredients of wartime incendiaries, was ignited. The X-rays, penetrating metal crucible walls lined with refractory material, revealed the actual melting phenomenon inside the crucible as well as the subsequent bursting of the molten metal through a steel plate underneath. A regular movie of the reaction photographed in visible light, by contrast, showed merely a shower of sparks and molten metal gushing out the bottom of the crucible.

Although the test movie shown was made at 100 frames a second, Dr. Slack said that 150 frames a second have been attained and possibilities of a much higher rate—perhaps up to 2,000 frames a second—are being investigated. X-rays have been recorded on movie film previously but the movie subjects were confined to relatively slow action because the

(Continued on Page 178)

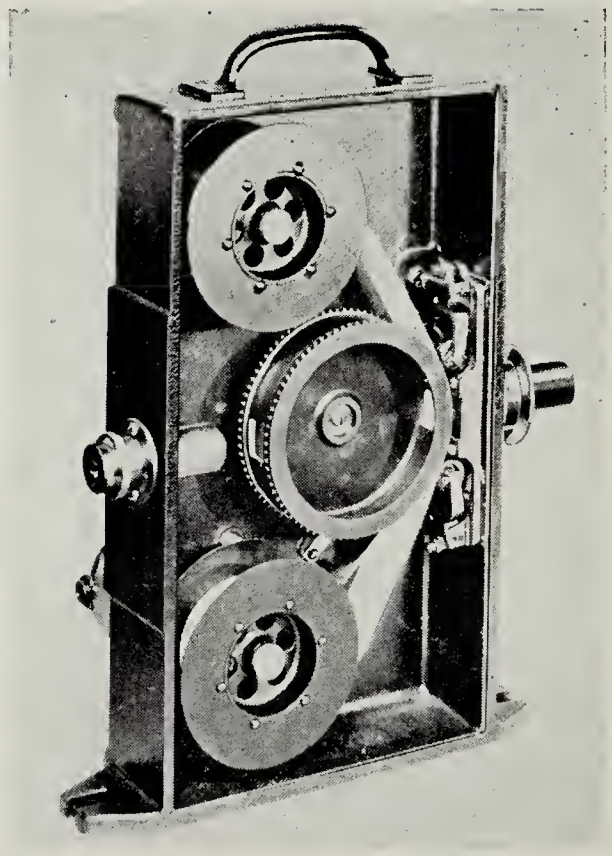


FIG. 3—This is the high-speed shutterless camera used to photograph the ultra-rapid X-ray analysis described above. Camera takes 100 ft. rolls of 35mm. film. Focusing is done directly through film or ground glass in the film gate by sighting through apertures in the large central driving sprocket.



CLIFF STINE, A.S.C., (white shirt, center, back to camera) lines up action on "Don't Be A Sucker," one of three series of TV films being produced by Hal Roach, Jr. at Hal Roach studio in Culver City, which is now west coast center of video film production.

Television Film Center

Picked crew, permanent sets and fixed basic lighting effect marked economies in Hal Roach TV film making.

By JOHN FORBES

WHILE SOME television circles may deny Hollywood's claim that it's now the television center of the world, there can be no disputing that the Hal Roach Studio in nearby Culver City has become the center of television film production. This famous studio, which once turned out most of the industry's film comedies, has converted its entire facilities to production of television films. Independent TV film producers, who now lease space there, claim video films can be produced more economically on the Roach lot because of the efficiency that follows use of standard motion picture lighting, equipment and procedures.

One of the studio's most active producers of TV films is Hal Roach, Jr., son of the studio's founder and head of Roach & Beaudette Enterprises. Roach currently is producing three series of television films. Through extensive pre-production planning on the series, Roach has developed procedures tending greatly to reduce the cost of making films for television—a requisite in these pioneering days.

First of all, Roach has organized a picked production crew comprising of cameraman and assistants, the director, gaffer and grip. The crew works together as a closely coordinated team on every Roach & Beaudette video film production. For his cameraman, Roach picked Clifford Stine, A.S.C., who has been a special effects cinematographer at RKO since 1930, was the late Vern Walker's assistant, and who will resume his post at RKO when that studio commences production again.

Stine has photographed two of the initial productions in the three series of video films which comprise "Life With The Erwins," featuring Stu Erwin and June Collyer in a series of domestic comedies on the order of Blondie and Dagwood; "Don't Be A Sucker," documentary type dramatization of modern day rackets, made with cooperation of the Bunco Squad of the Los Angeles Police Department and the Los Angeles Better Business Bureau; and "Myrt and Marge," based on the popular radio series by the same name. Also planned is a fourth series, "Let's Dance," featuring Veloz and Yolanda. Films in this group will be educational as well as entertaining, and each will feature some famous comedian as the "pupil."

Roach Junior is using no amateur talent in his television films, giving all important roles to tried and tested screen favorites such as Franklyn Pangborn, Lyle Talbot, Stu Erwin, June Collyer and others.

Economy in TV entertainment film production demands wide use of process backgrounds, Roach believes, which is substantiated by his choice of Clifford Stine as his cameraman. Cline has brought to the Roach productions many of the short-cut procedures developed for feature films. Roach now maintains a series of standing sets on his sound stages, all with the basic lighting and scaffolding set. These never have to be moved or re-installed. The wall paper on the walls may have to be changed, or one flat may be switched with another to vary the appearance of the room or to alter position of a window, but basically the set lighting requirements remain unchanged, except for any special floor lights that might be needed. Not invariably the script is altered slightly to permit use of these standing sets. For the "Erwin Family" pictures, one group of sets remains intact so it can be used for subsequent pictures in the series.

Hal Roach, Jr., is presently considering

(Continued on Page 181)



THEATRE television equipment was demonstrated at the S.M.P.E. convention that affords images up to 15 by 20 feet. Picture shown in photo was projected from the television projector mounted mid-room on tubular steel supports, and was picked up by a regular TV camera from a live scene in an adjoining room.

TOMORROW'S TELEVISION

Here, summarized, are highlights of discussions on television held at recent S.M.P.E. convention in N. Y.

By J. M. BRADY

MOTION PICTURE films are destined to play an increasingly important role in television programming, seven speakers at the Society of Motion Picture Engineers semiannual convention last month agreed. Opening the Society's week-long technical sessions at Hotel Statler in New York, a forum on television motion pictures presented the views of authorities in several fields and was followed by a general discussion by both audience and speakers.

It was stressed that present knowledge is sufficient to overcome many of the problems now existing, both in picture and sound quality. C. R. Keith of the Western Electric Company demonstrated "horrible examples" in 16mm. recording, together with examples of good 16mm. technique. With 16mm. now in wide use in television operations, he pointed out that excessive flutter and high noise level, as well as other types of distortion can be improved to the standard now existing in 35mm. operation. Most prominent among the sources of trouble are processing and projection, Mr. Keith added. Development of 16mm. film, he said, is inferior to present standards in 35mm., while present 16mm. printers often introduce distortion and flutter in prints. Most 16mm. projectors, he continued, do not provide the optimum results possible from the film.

Pointing out that improvement is possible in both the production of films for television and kinescope recording, Dr. Alfred N. Goldsmith, a consulting engineer of New York City, said that continuing research is necessary in both 35mm. and 16mm. fields to secure the best possible results from film in television.

The lighting of films for television came in for lengthy discussion, and Richard Blount, of General Electric Company, described the types of distortion which enter into television reception by the improper use of lighting techniques. The subject was further explored in a paper read by A. H. Brolly, which pointed out that "many principles of lighting for motion picture photography and the stage also apply to television but important differences make separate consideration of techniques imperative. Required light intensity is determined by the sensitivity of the image orthicon, the amount of amplification used, and the lens aperture. Color requirements in television may be met by the use of present knowledge.

"Unbalanced color response results from faulty understanding of the use of Kelvin temperatures and filters. The proper means of illumination for television are incandescent and fluorescent lights, each of which has its own particular uses and limitations.

"The fixtures used for these lights must be adapted to the special purposes of television. About twenty units of lighting are normally required for a small studio and about fifty for a large studio. These fixtures must be both quiet and simple in operation. The possibility of oscillation in fluorescent lamps may be minimized by their intelligent choice and installation. Present knowledge and means will suffice for solving the major problems of television studio lighting."

Mr. Brolly also described the use of a combination of fluo-

(Continued on Page 176)



SIMULTANEOUSLY, in Los Angeles, Pieter van den Berg (left), president of North American Philips, Co., Inc., demonstrated company's new equipment which affords projected television on either 12 by 16 inch or 36 by 48 inch screens. Dr. E. B. Doll, company engineer, holds cathode-ray tube which is integral part of equipment.

NOW
Is The Time
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NEGATIVE FILMS
For All Pictures

J. E. BRULATOUR, INC.
Distributors



IN PLANNING the photographic approach to a commercial film subject, the cameraman has a two-fold responsibility: he must suit his style to the subject, and he must at the same time make sure that he is presenting the client's message, product or service in the most forceful pictorial manner.

Photographing The 16mm. Commercial Film

The photographic planning of a commercial film should begin when the picture idea is in the earliest stages of scripting.

By CHARLES LORING

THE IMPORTANCE of good photography in the production of 16mm. commerical films cannot be over-rated, for there is no other type of motion picture which depends so strongly upon visual treatment for its total effect. This is not to imply that other phases of production such as writing, direction and editing are unimportant, or even less important—but since the commerical film always has an ax to grind, in a manner of speaking, the visual package in which it is presented can do much to win and hold audience attention.

Time was, and not too long ago, when the commercial film was considered the illegitimate and somewhat ragged little brother of the entertainment film. It was a kind of unnecessary evil which certain misguided organizations used to promote ill-will between themselves and their customers or employees. Times have changed, of course—and now the well-produced commercial film is considered the most potent medium available for presenting an idea to an audience.

With this coming-of-age there has risen a new responsibility. No longer can the commercial film afford to use shabby technique in telling its screen story. The great American audience has become accustomed to the very best photography in the photoplays that come from Hollywood, and they have come to expect a similar quality of technical finish in any picture which is presented for their approval. For this reason, if for no other, it behooves the commerical producer to use the most original and professional type of photography to present his client's ideas on the screen.

The photography of a commercial picture does, however, present a certain challenge. The subject matter of the average commercial film is, by its very nature, usually less interesting than that of a film that is conceived solely to entertain an audience. Sometimes the subject is downright dull—and in such cases the director of photography must use every trick in and out of the book to make the subject at least visually palatable.

The planning of the photography for a commerical subject should begin when the idea is in the earliest stages of scripting. The cinematographer should be present at all story conferences and should be given free rein to suggest photographic treatment of the idea. The experienced cinematographer will know what is practical and effective from the visual standpoint. Invariably he can suggest less-involved ways of staging a situation which will be more effective pictorially than those which the director or the writer may have in mind. If he is available during the early phases of script development, he certainly can prevent an over-enthusiastic writer creating situations which would be impractical to photograph within the budget allowed.

In planning the photographic approach to a commercial subject, the director of photography has a twofold responsibility: he must suit his style to the subject and

(Continued on Page 180)

Again available! *Cine-Kodak Special II Camera*

Now fitted with superb new Kodak Cine Ektar *f*/1.4 Lens



Professional movie effects with amateur ease

This is the one 16mm. movie camera with which you can create most of the unusual screen effects ordinarily produced by special and expensive laboratory treatment. The controls are built into the camera itself!

Fades, dissolves, mask effects, double and multiple exposures, montages, animation, slow motion, and speeded motion —all can be achieved from the camera position. The reflex finder permits precise focusing and framing, requires no rack-over, eliminates parallax, does away with the need for titlers, allows really big close-ups. The wind-back shaft rules out the need for backing up film in a darkroom. The single-frame shaft even permits time exposures for dark scenes ordinarily beyond the reach of the fastest lens.

Imagination—only—limits its range

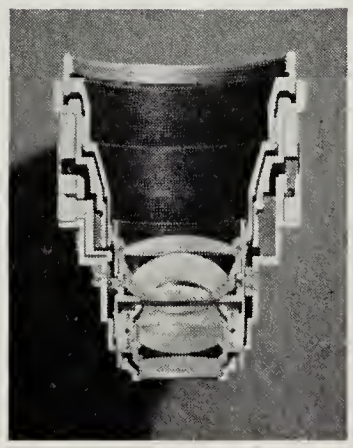
Name your effect. With the "Special II," you can have it!

Animated titles . . . maps . . . diagrams . . . "self-assembling" machines. Tremendously speeded action or time-lapse studies. All are easy with the "Special II."

Comedy situations, wherein big men vanish behind small trees . . . shiny new cars are transformed into battered flivvers . . . a screen character greets himself in mid-screen, is "beside himself" when and where you desire. The old and the new, the rich and the poor, the fast and the slow—all can be on the screen at the same time when the movie is made with the "Special II."

Title exposures against moving backgrounds . . . ghost effects wherein the background shows through the subject . . . fades against an unchanged background. These effects, and scores more—all under perfect finger-tip control—are simplicity itself with this camera.

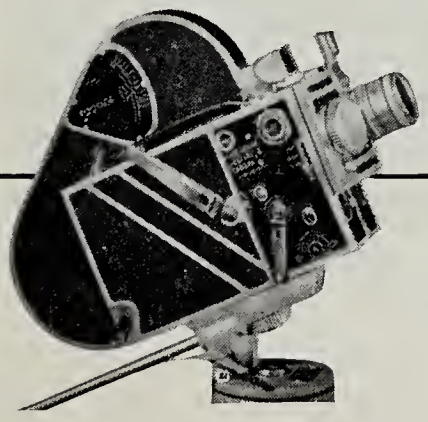
Small wonder Cine-Kodak Special II Camera is the first, and last, choice of the serious worker . . . the advanced amateur. Good news that production is once again in step with demand. Your Kodak dealer will be glad to accept your order for a Cine-Kodak Special II Camera—now!



Finest lens ever made for 16mm. motion picture cameras. The Kodak Cine Ektar 25-mm. *f*/1.4 Lens meets the highest standards of definition and edge-to-edge sharpness. Aided by the unique optical qualities of Kodak rare-element glasses, Lumenized glass-air surfaces, blackened lens rims, beveled flanges, and a new precision mounting of all elements, it provides superb image quality, excellent contrast and color purity, and unmatched flatness of field in addition to its extreme speed. And with the complete line of accessory Kodak Cine Ektar Lenses in a wide range of focal lengths also now available, still further scope and variety can be given to your film shows. Ask your dealer for the free Kodak booklet, *Kodak Cine Ektar Lenses*, which describes them in full detail.

Eastman Kodak Company

Rochester 4, N. Y.



The basic model of the Cine-Kodak Special II Camera is equipped with a 100-foot capacity film chamber and the 25mm. *f*/1.4 Kodak Cine Ektar Lens. It may be purchased with a 200-foot capacity film chamber and the same lens—shown at left—or with either chamber and a 25mm. *f*/1.9 Kodak Cine Ektar Lens. In one of these four forms, this fine camera will meet your every film-making requirement.

"Kodak" is a trade-mark

Kodak



IMAGINATION and ingenuity, coupled with a desire to enhance the interest of a novelty 16mm. film, resulted in this animated title which consists of movable block letters moving magically across the title card to spell out the text. Title is one in a series made by Dr. Rich Johnston, Ogden, Utah.

Animation Adds Interest To Movie Titles

Single frame exposure technique affords novel animation effects in movie titles, stepping up interest in footage lacking in continuity.

By LEIGH ALLEN

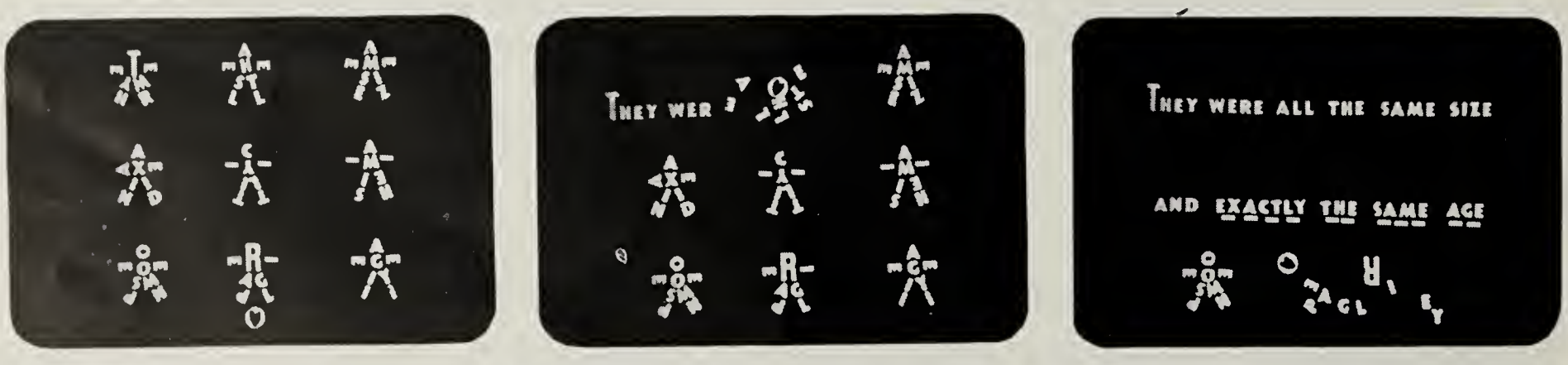
THE MOVIE amateur is frequently admonished to get continuity into his home movies—to shoot his scenes so that they link together to form a story. However, not all home movie subjects lend themselves to story continuity as we observe it in professional motion pictures. Take, for example, movies made of the kiddies and family around the home, or the scenes shot on a vacation trip. Despite the admitted need for continuity in such movies, it is seldom achieved and quite often impossible to attain from a photographic standpoint

Fortunately there are other means by which continuity can be woven into movies, and titles — *animated* titles — are the most promising. Besides, almost any movie amateur can make animated titles himself. By animated titles, we mean those in which the letters forming the text are made to move about magically on the screen, finally forming words and sentences. Such titles intercut between movie scenes perk up interest and at the same time tie the whole together continuity-fashion to form an entertaining movie. At first it might be argued that such titles would, by their very novelty, detract from the picture, but as the pictures with which we suggest such titles be used are usually shy on continuity—cannot convey a complete story by themselves—they need the advantage of clever titles to tie the scenes together and thus create additional interest.

For instance, Dr. Rich Johnston, an enterprising movie amateur of Ogden, Utah, employed animated titles to link together in story form a series of multiple exposures which he had conceived as a means of displaying the talents of his young daughter. Using a special masking device which he set up before his camera and which allowed him to expose 1/9th of the area of a single frame of 16mm. film at a time, this cinefilmer produced and entertaining home movie that showed nine little girls in nine windows of a house, all enacting a different role. His daughter played each role. Each time, the film in the camera was wound back to the original starting point, the next segment of the 9-section mask was opened, and the next scene to be played lined up within this area. On the screen the shades of the various windows are raised one by one to reveal each of the "ninetuplets"—to coin a word—enacting nine different roles. One was telephoning, another was studying her school lesson; still another was listening intently to a horror radio program, while in the adjoining window another little girl was playing nurse to her doll, and so on.

To enhance the novelty of this presentation, which, if presented without

(Continued on Page 174)



THE PICTURE, for which this title is one of many explanatory captions, described the doings of nine little girls. Appropriately, the various letters in the words of the title were grouped together to form nine little figures. These in turn unscrambled magically to form the title.



What makes water look wet in movies?

That's simple — it's Ansco Hypan Film.

And not only does this film make water look wet, but it makes people look real, makes grass look soft, makes thorns look prickly, makes sand look sandy.

In short, Ansco Hypan Film makes your movie scenes look completely, wonderfully natural. It gives them what a lot of people have come to call that "theater look" of the professionals.

For Ansco Hypan Film has a fine grain—a pleasing scale of tone values—a splendid panchromatic color balance.

Many claim that Ansco Hypan Film has moved their home movies into the way-above-average class. Let it do the same for you. **Ansco, Binghamton, N. Y.** A Division of General Aniline & Film Corporation. *"From Research to Reality"*.

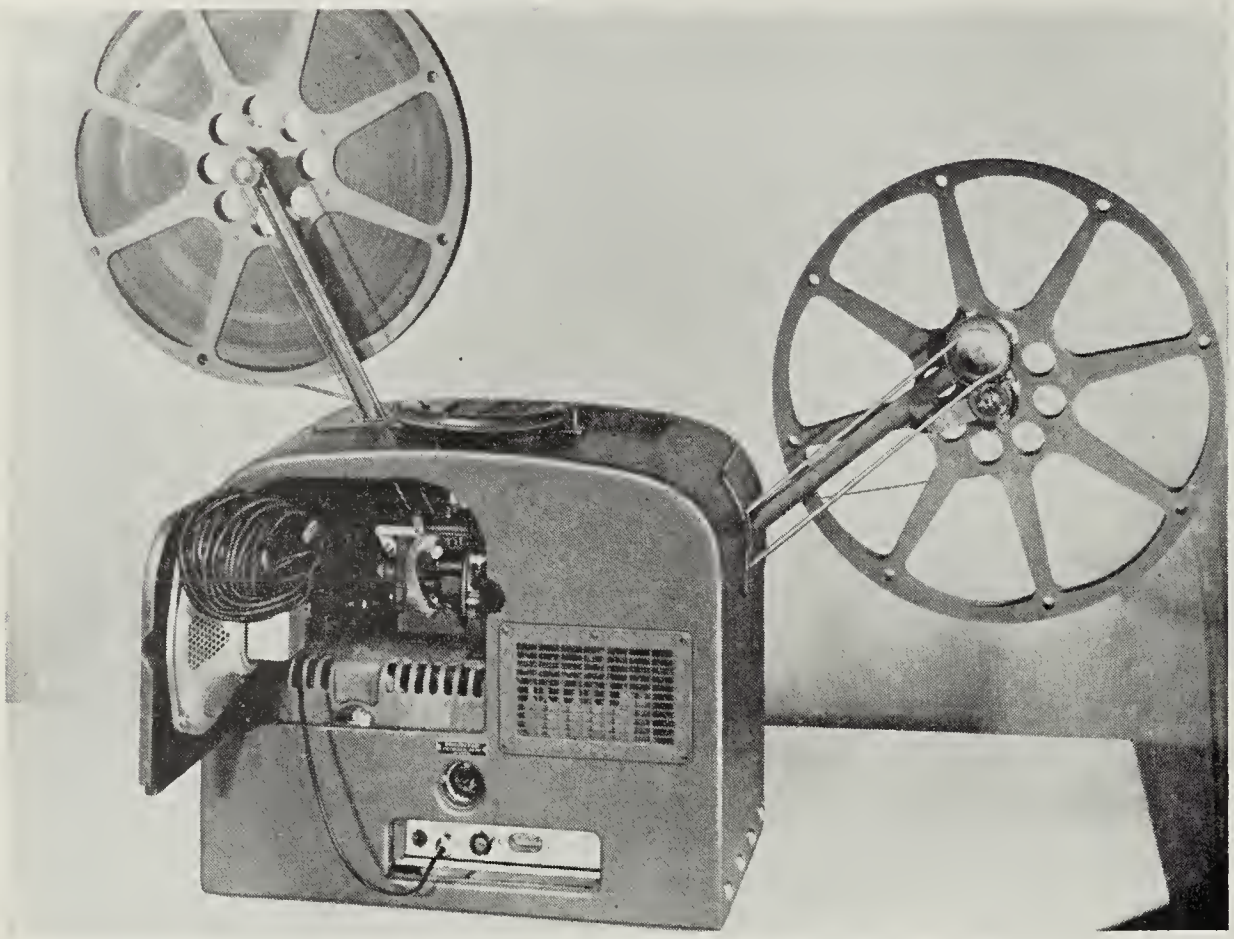
TIPS ON TITLES — If you're taking pictures of kids, try this for your title run. Line up the kids, back to camera, with title signs on their backs. Train your camera on each sign for a few seconds, then have the kids turn around in a group.

ASK FOR

Ansco

8 and 16mm

HYPAN FILM



ITS CONSTRUCTION and engineering proved in a gruelling endurance test, Bell & Howell's new "One-Case" Filmosound represents a series of improvements over older models—improvements of such magnitude that the older line is being dropped entirely.

Endurance Test

Bell & Howell puts its new lightweight "One-Case" Filmosound through continuous 24-hour-a-day comparative endurance run.

By J. G. ROARK

IT'S NOT often that a manufacturer is willing to submit a sample of his product to a series of exhaustive and completely honest comparative tests with similar sample products. Why not? Because of the ever-present possibility of embarrasing results which, once determined, seem always to leak out. However, when such tests are conducted and the superiority of a product is indicated, a certain amount of "flag waving" is certainly to be condoned. Such is the case with Bell & Howell Company.

The comparative tests conducted by Bell & Howell in their Chicago Plant featured a standard Filmosound taken directly from stock, and one each of six other sound projectors of prominent make. The other projectors were purchased from dealers to insure customer operating condition. No changes whatsoever were made in any of the projectors. They were just as the customer buys them.

The first results of these tests were published in advertisement form in the March issue of the American Cinematographer and also in other magazines. These results speak well for Filmosounds and their maker. According to Bell & Howell Company, these tests indicate that the new Filmosound gives less trouble, better performance, more economical performance, and most important, provides for better film safety than any of the other machines which competed in the test. Also, the Filmosound suffered no break-downs or any other occasions for repair necessitating return to the factory or, as would be the case with a consumer, a return to a Service Station. Film protection, picture steadiness, and trouble-free performance—all factors of major importance to the customer—are points in which the Filmosound was shown to excel, according to Bell & Howell engineers.

The new Filmosound represents a series of improvements over older models—improvements of such magnitude that the older line is being dropped completely in favor of the new.

Smaller in all dimensions, lighter, and more compact, with no sacrifice of quality or performance, the new One-Case Filmosound is a portable sound projector that is actually light enough for the average person to carry easily. The 6-inch speaker is mounted on a door in the side of the case. The door is hung on split hinges permitting the speaker to be used enclosed in the case, at right angles to the case (a locating bracket maintains the speaker in a 90-degree fiixed position,) or removed from the case and placed near the screen. When the speaker is placed near the screen (a 40-foot cable is provided for this purpose), the posts on which the speaker cord is wound act as supports to hold the speaker upright.

No part of the film's picture surface is touched at any time by a part of the projector. Safe-lock sprockets assure correct threading. At both sound and silent speeds, the Filmosound is governor controlled. Metered lubrication assures adequate oil for moving parts at all times. Side tension springs in the film gate eliminate side sway in the film . . . constant tension take-up and film protecting snubbers guard against breakage. An automatic safety shutter and forced air cooling eliminate danger to film from excessive heat.

In appearance, the smoother lines and rounded corners of the new die-cast aluminum soundhead are a considerable improvement. Most important, however, is the saving in weight, 4¼ pounds, and less radiation of noise. Ample ventilation is provided by louvres on the rounded upper edges of the soundhead. The exciter lamp assembly has been redesigned for improved performance and accessibility. The exciter lamp cover is removed easily by loosening only one hand-screw. The lamp itself is equipped with an automotive prefocused base, which means simply that the exciter lamp will now have the same pre-aligned precision for which the Bell & Howell optical system has so long been famous. A new type damping shield is used to reduce microphonics.

New aluminum "slip-in" reel arms, fitted with slots in one end, have been designed to make attachment to the case a quick, slip-in-place operation. Cross bars in the case prevent the belts from falling into the case when the reel arms are removed. The projector case has been completely restyled for functional beauty with rounded top, external hardware in a

matched shade of brown, door hinges mounted on the inside, and a new quick-grip latch, satin-chrome finished, for the door. A new ventilation grill on the same side of the case as the speaker carries heat away from the operator. Incidentally, the door fastens securely in a wide open position to eliminate the banged-head routine when threading a tilted projector. The new amplifier allows substitution of any current B&H speaker when greater audience handling capacity is needed. This versatility provides a choice of four speakers for the One-Case Filmosound—the 6-inch speaker provided, the B&H 8-inch or 12-inch auxiliary speaker, or the 15-inch power speaker. A 1000-watt projection lamp is provided as standard equipment on all Filmosounds.

During the course of the past 42 years, Bell & Howell has developed a tremendous "know-how" in the associated sciences of Optics, Electronics, and Mechanics. From this extensive experience has come the confidence in product that enables B&H to offer their lifetime guarantee. The test marathon continues in full swing. Already the Filmosound has passed the 1200-hour mark without requiring a single factory repair. For the prospective buyer, this means that with a Filmosound, he may reasonably expect good, trouble-free performance without the annoyance of losing usable time while waiting for his projector to be repaired. THE END

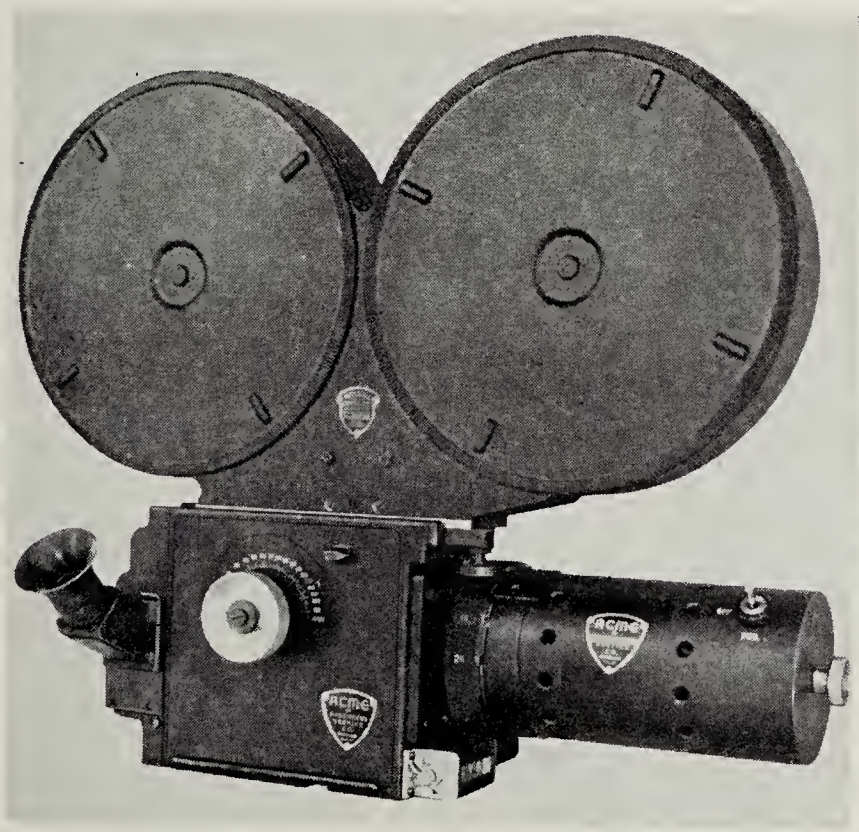


- ✔ Rugged vibrator unit. Will withstand overloads without harm. No strings to break.
- ✔ High Fidelity frequency response.
- ✔ Requires only 300 milliwatts for full modulation.
- ✔ Can be biased for noise reduction.
- ✔ Compact and light weight.
- ✔ Mounts in any position. V bed and locking gib permit track position adjustment.
- ✔ Proven performance.
- ✔ Prefocused exciter lamps. Can be changed in a few seconds. No adjustments required.
- ✔ Fine focus adjustment with one-sixteenth-inch range is built in.
- ✔ Available for 16mm or 35mm tracks.
- ✔ True square edge on Mounting Plate to check azimuth of optical image.

✔ Price $450.00

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MANUFACTURERS OF SOUND-ON-FILM RECORDING EQUIPMENT SINCE 1931



ACME 35 MM. OR 16 MM. CAMERA

- FOR PROCESS OR ANIMATION
- 170° DISSOLVING SHUTTER
- FOOT AND FRAME COUNTER
- BUCKLE SWITCH FORWARD AND REVERSE
- RETRACTABLE BUILT-IN SUCCESSIVE FRAME COLOR WHEEL
- POSITIVE PIN REGISTRATION MOVEMENT TAKES ONE, TWO, OR THREE FILMS WITHOUT ADJUSTMENT
- REFLEX VIEWER WITH REGISTRATION PINS TO COINCIDE WITH REGISTRATION PINS IN MOVEMENT
- LIGHT CAN BE PROJECTED THROUGH FILM LOCATED ON REGISTER PINS IN REFLEX VIEWER TO PROJECT IMAGES FOR PAINTING MATTES
- PRICE WITHOUT LENS OR MAGAZINE..... **$3000.00**

VARIABLE SPEED SYNCHRONOUS MOTOR

- DELIVERS STEADY SYNCHRONOUS SPEEDS AT 24, 16, 12, 6, 3, AND 1½ F.P.S.
- TO CHANGE SPEEDS, SIMPLY TURN DIAL
- FULL POWER AT ALL SPEEDS
- FURNISHED WITH ADAPTER TO FIT BELL & HOWELL, MITCHELL, OR ACME CAMERAS
- PRICE COMPLETE..... **$425.00**

ACME STOP-MOTION MOTOR

- FORWARD, REVERSE, STOP-MOTION, OR CONTINUOUS
- TAKES 1 OR 3 SUCCESSIVE FRAMES IN STOP-MOTION
- 1/16, ¼, ½, 1, 2, AND 4 SECOND EXPOSURES
- TO CHANGE SPEEDS, SIMPLY TURN DIAL
- FULL POWER AT ALL SPEEDS
- FURNISHED WITH ADAPTER TO FIT BELL & HOWELL, MITCHELL, OR ACME CAMERAS
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PRODUCERS SERVICE COMPANY

2815 WEST OLIVE AVE. STANLEY 7-3144 BURBANK, CALIFORNIA

Cine Kinks for Movie Amateurs

IF YOU USE YOUR PROJECTOR to edit your pictures, employ a red grease pencil to mark your film for cuts as it is being projected. Red shows up clearly on either black and white or color film and may be quickly removed from film with lighter fluid or carbon-tetrachloride.

•

TO PREVENT OXIDATION of bright trim on your camera and lenses, after a day of shooting at the beach, wipe trim with small swab dipped in lighter fluid and polish with a clean soft cloth.

•

CUEING WIRE RECORDED SOUND with your home movie films will be made easier if you place a cue mark on the celluloid leader of the recorded spool of wire to correspond with start mark on your film.

•

REFLECTORS are unnecessary if you use the new reflectorfloods and reflectorspots now manufactured by General Electric Company. These photoflood lamps have their own built-in reflectors and all you need in order to use them are appropriate clamp-on sockets.

•

AN EXCELLENT three-piece service kit for servicing your movie projector consists of (1) small piece of chamois, for cleaning film gate; (2) small rubber syringe—excellent for blowing particles of dust from projector gate and surface of lens, and (3) small pad of lens tissue. Keep all three in a small box in your projector case.

•

USE BITS OF QUARTER-INCH adhesive tape for patching film that breaks during projection. White tape is easy to see when rewinding film, enabling you to catch the break and splice it after the show is over. Keep several pieces, about ½" in length, on the base of your projector ready for use.

•

GIVE YOUR CAMERA a coat of wax (furniture or shoe) before starting on an ocean cruise or a vacation at the beach. Polish well and wax will preserve finish against corosion and other atmospheric damage.

•

MOONLIGHT EFFECTS can be achieved with color film by using a blue filter over lens and reducing exposure ½ stop.

ANIMATION ADDS INTEREST TO TITLES

(Continued from Page 170)

titles, would have a much shorter period of interest on the screen, the filmer conceived the idea of adding animation to the titles that were to describe the picture, title of which was "Nine Little Sisters." Subsequent descriptive titles went on to relate how on a certain street there was a house in which lived nine little sisters, that they were all the same age, all the same size, etc.

Instead of flashing complete titles on the screen, only the first word or perhaps the first sentence of a title would appear. Then the rest of the words formed magically, as the various letters emerged from a scrambled pile of characters; or a complete line or sentence would appear, then parade around the title card, finally coming to rest properly arranged in its rightful place in the composition.

Two examples of this filmer's titles are illustrated. They were composed of small white block letters on a soft black background. Several of the descriptive titles began with the block letters arranged in nine separate groups, representing nine little figures, as seen in Fig. 2. One by one the figures would unscramble to form words, then complete sentences.

A variation of the technique is shown in Fig. 1. Here the letters forming part of a sentence, slightly scrambled, appear magically and parade in a serpentine line over the title board, finally coming to rest in correct order to form a line of the title.

The animation, of course, was accomplished by stop motion photography—that is, shooting one frame at a time. Most modern cine cameras provide for single frame photography, but for those cameras that do not, it is quite possible to make single frame exposures by allowing the camera motor to unwind almost completely and just barely tapping the starting button to cause a single revolution of the shutter. Some cameras give better results with the speed set at 8 frames per second. In most cases, it is necessary to stop down the lens from a half to one full stop to compensate for the slower movement of the shutter, and consequently additional exposure time. This is not necessary, however, where the camera provides for single frame exposures.

Naturally, making titles this way requires endless patience. Each letter must be moved perhaps 25 to fifty times to complete the full cycle of animation—which means making 25 to fifty single frame exposures as well. Imagination and ingenuity are required, too, as illustrated in the examples shown here. But it is all worth the while. First it gives movie amateurs a new field of movie making to explore and also, its an accomplishment that invariably wins the admiration of your friends when finally the completed picture is shown on your home movie screen.

While we have described the use of such titles as captions for a novelty reel, animated titles will give a lift to your vacation movies, movies of travels, home town newsreels, and documentaries of local scenes. But except, perhaps, for a main title, do not use animation in titles describing movies which already have continuity, which have been planned and shot from a carefully developed shooting script. To do so would seriously detract from the picture's pictorial and story interest. Nor are animated titles recommended for lengthy pictures. The novelty would soon wear off, become boring, and do more harm than good.

Any type of movable letters may be employed: plastic block letters, die-cut cardboard letters, felt letters, wooden block letters—all lend themselves easily to this form of animation. Try it soon and see for yourself.

DOCUMENTARY STYLE

(Continued from Page 161)

prune pits in the dolly tracks."

In filming the daylight exteriors on location, reflectors were used instead of booster lights for fill-in illumination. A 400-amp. generator was used to light the night exteriors and a 200-amp. generator supplied current for the interiors shot on the spot. One tenement hallway location was shot with a scant 70 amps. of illumination.

In one of the sequences shot within the tenement houses, a group of people is shown crowded into a hallway. Far in the background was a small bathroom. None of the conventional lighting units were small enough to light this set, so Gertzman used and ordinary 150 watt kitchen bulb as the sole source of illumination.

The night street scenes were shot using conventional floods up to the generator's limit of 400 amps., and lights were set up in store windows, etc., in order to produce a realistic atmosphere of activity.

"Working so far from our studio facilities, we had to make every light count," Gertsman explains. "When we had lighted our street scenes up to the 400-amp. limit, we had to stop lighting units and shoot with the current available.

It's amazing what results you can get when you know you have to make do with the equipment at hand. It's a challenge to the ingenuity to have to improvise in this way, but the result is often more natural and realistic."

There is no apparent lack of production value in "City Across the River," however. On the contrary, the photography has the professional finesse that is characteristic of the best Hollywood product, together with an unvarnished realism that exactly fits the mood of the story.

Gertsman, now engaged in shooting "Partners in Crime" at Universal-International notes a parallel between his experiences on the documentary assignment and future trends in professional cinematography. "Time was when if some little thing went wrong on location, or if the weather wasn't quite right, the whole company would sit around and wait until things returned to normal, meanwhile adding quite a chunk on to the budget. Nowadays, with economy very much a factor in the production of films, we can no longer afford to do this. The cameraman has to take whatever conditions exist and work around them, often in newsreel fashion. Sometimes, he can take what appears to be a technical disadvantage and turn it into a device favorable to the story. On my current assignment, for example, we were on location in San Francisco when it started to rain. Since the sequence was a highly dramatic one we proceeded to photograph it in the rain. As it turned out, the rain heightened the dramatic mood, and gave the scene real punch."

The cast and crew of "Partners in Crime" recently returned from a location jaunt to Nogales, Mexico, where lengthy outdoor sequences were shot. All of the night exteriors were photographed in daylight using infra-red film, and since this was Gertsman's first experience in the wide-scale use of this unusual film stock, he encountered many interesting problems.

First, it is a common axiom that infra-red film records graduations of black and white, not in terms of the color of the subject, but rather according to the amount of infra-red rays emitted by the subject. In making some preliminary tests to see how colors would record, Gertsman photographed a navy blue coat having accessories of the same identical color—at least to the eye. As seen by the infra-red film, the coat recorded dark gray, the belt black and the buttons white. Gertsman was further amazed to note how a single incandescent lamp will "burn through" even when bucking a blazing sun, thus making realistic night shots easily available.

As a director of photography, Maury Gertsman, A.S.C., is an able and versatile

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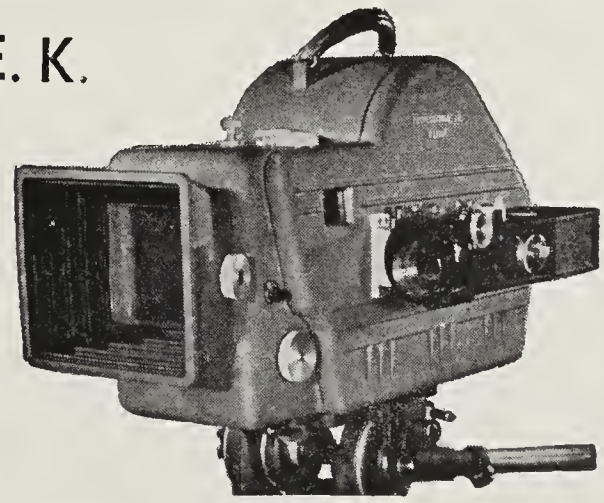
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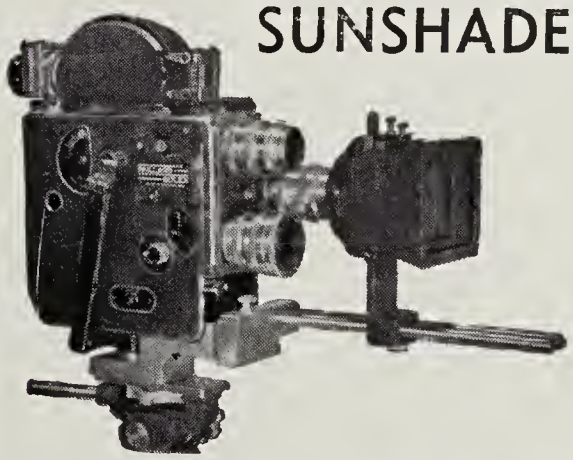
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• ARTHUR EDESON, having completed supervising the making of release prints of Douglas Fairbanks' "Thief Of Bagdad," began shooting Jack Pickford's latest production.

• REGGIE LYONS wound up the camera work on J. Stuart Blackton's Vitagraph production, "Between Friends," based on the Robert Chambers story.

• JOHN DORED was jailed in Russia for shooting burial of Lenin in Moscow. The complete story of his experience later appeared in the May, 1924 *American Cinematographer.*

• JOHN SEITZ returned from Europe where he had been filming "The Arab," for Rex Ingram

• GAETANO GAUDIO was elected president of the A.S.C. Also elected were Gil Warrenton, Karl Brown and Homer Scott, vice-presidents; Charles J. Van Enger, treasurer; and Victor Milner, secretary.

• LOUIS TOLHURST, collaborating with Sol Lesser, was preparing to shoot a feature-length microscopic film study of insect life for theatrical release, but with the educational release possibilities also in mind. Tolhurst had become famous for his "Secrets Of Life" series, an earlier micro-movie series.

• BERT GLENNON was being praised by critics for his outstanding cinematographic artistry on Cecil B. DeMille's production "Triumph" which he photographed following DeMille's successful "Ten Commandments."

• VICTOR MILNER was again behind the camera for Fred Niblo, this time shooting "The Red Lily."

• H. LYMAN BROENING started shooting "Being Respectable" at Warner Brothers studios. Former cinematographer Phil Rosen directed the picture which featured Marie Prevost, Irene Rich, Louise Fazenda, Monte Blue, Ted Von Eltz and Sidney Bracy.

• MAX DUPONT returned from an extended stay in Tahiti, robust and raving about South Seas sunsets.

• HERFORD TYNES COWLING was in India shooting scenes for an untitled picture. In those pre-Constellation days, Cowling transported himself and photographic equipment via elephant in covering remote areas with his camera.

• ROBERT NEWHARD, who was being lauded for his camera work on "The Hunchback of Notre Dame," directed by Wallace Worsley, was now shooting for Nell Shipman productions.

craftsman who believes that a cameraman must be flexible enough to adapt his lighting and camera style to any type of assignment.

On this point it is interesting to note a comparison between two of Gertsman's recent pictures. "City Across the River" as we have pointed out, follows a documentary treatment, utilizing photography that is graphic and realistic in its simplicity. In direct contrast is "Rogue's Regiment," filmed months earlier, which is a story of intrigue in the Orient. This unusual action drama is ripe with visual mood. In it, Gertsman used shadow for emphasis instead of light. The lighting was mostly low-key, subdued and mellow, perfectly tuned to a plot that constantly shifted moods from the sinister to the romantic. Wide-angle shots framed with foreground objects were used throughout to give depth to the sets and planes of action. In short, every dramatic device of lighting and camera angle was used to make the mood of "Rogue's Regiment" faithful to its exotic plot and locale.

The casual observer viewing these two films would hardly suspect they were photographed by the same man, for they represent completely opposite extremes in photographic styles. Yet each treatment is directly keyed to the subject which it is called upon to present.

In setting forth his ideas on the role of the camera in production, Gertsman observes: "I feel that the story is the most important basic unit of the motion picture, and everything that happens on the set should be for the purpose of interpreting that story faithfully on the screen. Therefore, the camera should not call attention to itself as a device but should subordinate itself to the telling of the story. Camera movement, for example, is a powerful cinematic device but it should never be obtrusive."

TOMORROW'S TELEVISION

(Continued from Page 166)

rescent and incandescent lights with simple camera lens filters to abtain improved color response with image-orthicon television camera tubes. Because of the characteristics of camera tubes, he said, the color as well as the intensity and directivity of the light used is an important factor. A light that appears bright to the eye, he explained, may be less efficient in terms of transmittable signal than another of a dafferent color characteristic.

Mr. Brolly also dwelt on the subject of makeup for television live shows. "Purple lipstick and yellow rouge as makeup are no longer needed by television performers," he said, adding "that application of known principles of illumination can make possible natural effects without exaggerated or false makeup." He stated that, to this time, the proper use of lighting has not kept pace with the advance in other types of equipment used in television.

That theatre television is a step closer to realization was revealed in the introduction at the convention of commercial models of theatre television equipment, greatly reduced in size and providing greatly improved images up to 15x20 feet. Such units, it was stated, probably will be in general production by the end of 1949. RCA expects to be in a position to manufacture theatre television equipment based on the system demonstrated at the convention, in pilot-run quantities, possibly by December, 1949. It is expected that the price for a single unit without stand-by facilities will be less than $25,-000.

Hollywood's film industry long has speculated on the effect theatre television will have on film production, whether it will greatly increase the making of motion pictures or whether feature film production will be sharply diminished by the advent of theatre video.

Theatre television programming appears to fall into two broad classes, one spokesman said. These are:

I. Use of regular television broadcast material.

II. So-called 'closed-circuit' performances in which a privately originated program is fed to one or more theatres.

"In the second case, some examples of originating sources might be:

I. Live action in a studio from the stage of a theatre or from some public place such as a sports arena or a site of a political event.

II. Motion picture film produced either in more or less regular fashion, or by Kinescope photography to 'store' some program such as those described.

In any case, program transmission might be by microwave relay, equalized telephone lines, coaxial cable, or some combination of these.

In the meantime, while the S.M.P.E. dwelt on various phases of television at its east coast convention, an important advancement in the reception of television programs was being unveiled in Los Angeles. There, before a select group of representatives of the press and of the radio manufacturing industry, Pieter van den Berg, president of North American Philips Co., Inc., demonstrated his company's latest product—three component parts which may be used by any television set manufacturer to provide projection television on a standard 3 by 4 foot home movie screen.

For the average home, he also demonstrated a console model receiver, utilizing

the Philips components, which provide a 12 by 16 inch image on its built-in translucent screen. The results of this projected television are so far superior to that viewed from the end of the conventional tube of ordinary television receivers as to suggest that development of present-day TV sets is comparable to the crystal set stage of early day radio.

The adoption of the Philips projected image system to television receivers so greatly improves image quality that a lot of the difficulties presently being experienced in an effort to improve reception may easily lie within the receiver itself. For example, standing at a distance of 25 feet from the Philips receiver, the 12 by 16 inch image viewed was sharp and possessed almost 3-dimensional quality. Moreover, the usual distortion that accompanies reception from direct-tube viewing was absent.

It is the opinion of many who witnessed the Philips demonstrations that should major set manufacturers adopt the Philips equipment for their receivers, average reception quality would be so greatly improved as to give marked impetus to increased use of films for television program material.

It will be interesting, a year from now, to review the many forthright suggestions, discoveries and equipment improvements revealed, both in this demonstration and the S.M.P.E. convention, and to note the tremendous influence they had in furthering television as the nation's fastest growing industry.

CALIBRATION OF LENS MARKINGS

(Continued from Page 163)

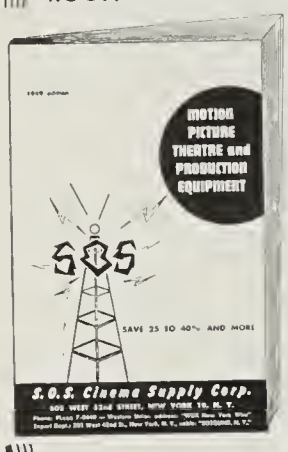
More recently, this work has been extended by Dr. Washer in a study of the errors in the marking of 20 lenses having focal length between 0.5 and 47.5 inches. During the investigation, it was found that the effective f/ number of the ideal lens can be readily determined for each of the marked stop openings if the light meter readings for a series of standard diaphragms (placed between the meter and a light source) are compared graphically with the meter readings for the range of diaphragm openings of the lens (*Figure* 1). Two curves of about the same slope are obtained by plotting the scale deflections of the light meter against (1) the effective f/ numbers or t/ numbers corresponding to the standard diaphragms and (2) the marked f/ numbers of the lens. The first curve will be a straight line since the plotted f/ numbers of the standard diaphragms give an accurate indication of the amount of light transmitted. The second curve, on the other hand, will not in general be a straight line unless the marked f/ numbers are accurate in terms

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of light transmission or are affected by a constant error. The t/ number corresponding to a marked f/ number is then obtained by locating the point on the first curve where the scale deflection is the same as that for the given f/ number. The value of the abscissa for this point is the corresponding t/ number. An approximate measure of the light losses within the lens my be obtained directly from the lateral displacement of the two curves.

The errors in marking the stop numbers of the lenses under study were also carefully investigated, with particular attention to those arising from errors in focal length and effective aperture, either separately or together. It was found that the magnitude of these errors was frequently as great as the difference between stop openings at the larger f/ numbers.

In connection with this phase of the investigation, a method was developed for presenting all calibration information on a single graph (*Figure* 2). As logarithmic coordinate paper is used, the intervals between successive stop openings are equal and can be taken as the unit on each scale. The marked values of the f/ numbers (indicated by circles on the graph) and the values of the calibrated f/ numbers, or t/ numbers (indicated by crosses), are plotted against the true geometric f/ number (the quotient of measured equivalent focal length and measured effective diameter of the stop opening). A straight line is drawn through the crosses, and a dotted diagonal line with unit slope is also drawn. If there are no errors in the marked f/ numbers—that is, if the indicated f/ number equals the true geometric f/ number—all the circles will fall on the dotted line. On the other hand, if the circles do not fall on the dotted line, the error in f/ number can be easily estimated from the curve as a fraction of the interval between stop openings.

All of the crosses would also fall on the dotted line if the transmittance were 100 percent. The displacement of a cross from the dotted line is thus a measure of the transmittance of the lens at that stop opening. If the crosses fall on a straight line parallel to the dotted line, the calibration is consistent and the measurement of the true geometric f/ number is correct.

[1] For further technical details, see Sources of error in and calibration of the f/ number of photographic lenses, by F. E. Washer, J. Research NBS *41*, 301 (1948) RP1927.

[2] Compensation of the aperture ratio markings of a photographic lens for absorption, reflection, and vignetting losses, by I. C. Gardner, J. Research NBS *38*, 643 (1947) RP1803.

[3] Calibration system for photographic lenses, NBS Technical News Bulletin *31*, 137 (1947).

HIGH SPEED CINERADIOGRAPHY

(Continued from Page 164)

exposures used were 1,000 times longer in duration.

While this is the first step in the new development—known technically as high-speed cineradiography—the scientist believes that a number of uses for it in medicine, industry and rocket research can be envisioned.

He suggested, for example, that with modifications of the procedure physicians can capture on movie film visible evidence of the fastest-moving organs within human bodies; orthopedists, chiropodists, and shoe manufacturers can get a moving pictorial record of feet in a running or walking action and, through simulated conditions in ground laboratories, physicians can study the bodily distortions fliers endure when they are catapulted out of speeding planes or when they make crash landings.

In industry, the new technique may solve at least many of the mysteries of how metal is deposited from an arc welding rod, and of how molten metal flows into a casting mold. X-rays, Dr. Slack explained, are unaffected by the strong light and fumes which obscure the conventional motion pictures made in visible light.

In the field of feature film production, X-ray movies could supply interesting moments in documentary films on a wide number of subjects.

As more powerful X-ray tubes are developed it may even be possible to inspect externally the internal action of airplane and automobile engines, which should result in smoother and safer engine performances.

For the national defense, the technique will be used in analyzing the burning action of fuel in a rocket. The Bureau of Ordnance, U. S. Navy, sponsored the project for this purpose.

Super-speed X-ray movies emerged from the same Westinghouse laboratory where Dr. Slack and his colleagues developed an X-ray tube, making possible millionth-of-a-second X-ray still pictures, eight years ago. Equipment containing that tube was used in the atomic bomb development and for studies in ballistics during World War II.

The motion picture referred to earlier was made by the so-called indirect method, one of two procedures possible with the new development. A floures-cent screen was placed behind the crucible. Then a shutterless, oscillograph-type

movie camera photographed the powerful, instantaneous images produced on the screen by the X-ray equipment. Instead of the closing and opening of a slow-motion movie camera shutter 100 times a second, the individual exposures were controlled by the short-time flash of the X-ray tube, making a shutter unnecessary. Film used was Eastman recording orthochromatic negative which was subsequently copied on Eastman Super-X 16mm. film.

The exposures, Dr. Slack explained, followed in rapid-fire order after one-hundredth of a second pauses to recharge the equipment powering the X-ray unit. The electronic tube used to make the exposures at such super speeds handles power pulses exceeding five million watts, 1,000 times greater than that handled by X-ray tubes in most physician's offices. A pulse transformer, similar to that used in radar sets, steps up a 20,000 volt condenser discharge unit to the 150,000 volts required to flash the tube and make the exposure.

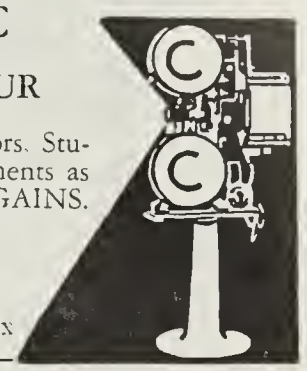
The laboratory in which the X-ray movies were made is shown in the photographs. In Fig. 1, a technician is shown setting the stage preparatory to shooting the high-speed X-ray movies. The special camera is shown immediately

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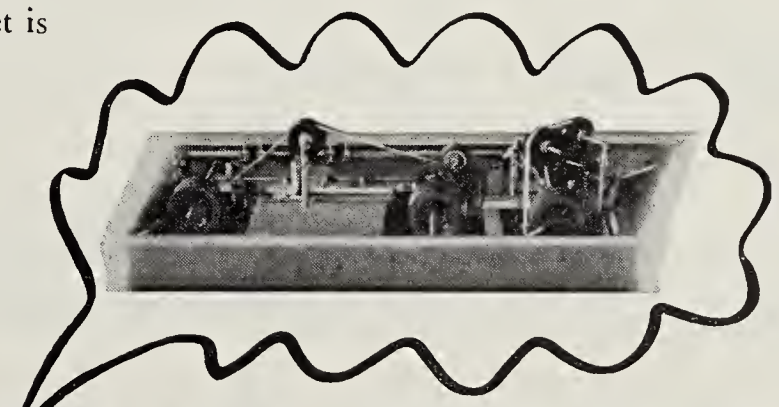
Bausch & Lomb "Baltar" lenses and others for Motion Picture Cameras

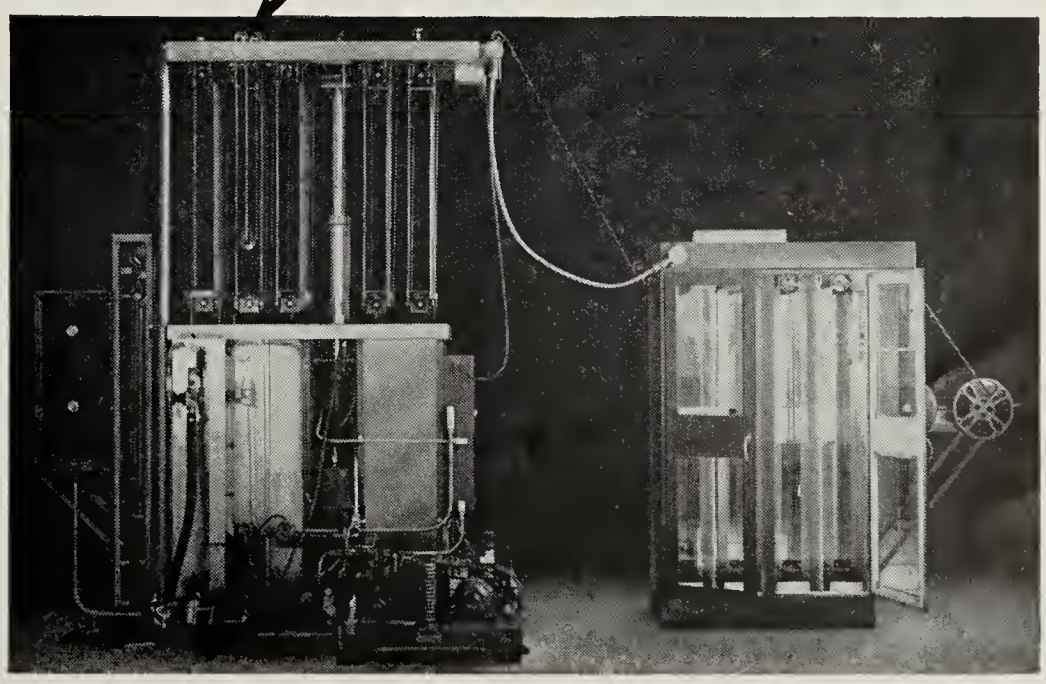
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above the technician's head, at the far end of the assembly. In Fig. 2, the chemical reaction has been set off while the shutterless camera records the action in X-ray at exposures of ten-millionths of a second.

The special high-speed camera, which is manufactured by General Radio Company, is shown in Fig. 3 with door removed to reveal its mechanism. The manner in which the camera is focused and the film is threaded is clearly indicated. The large central driving sprocket and the bottom takeup reel are each driven by separate motors. Focusing is accomplished by viewing the image through the focusing eye-piece when the two apertures in the driving sprocket are aligned as shown. The image forms on a small piece of translucent film inserted in the gate. Any 35mm. film or paper with standard perforations can be used in the camera. Capacity of reels is 100 feet.

PHOTOGRAPHING THE 16 MM. COMMERCIAL FILM

(Continued from Page 168)

must at the same time make sure that he is presenting the client's message in the most forceful manner. If, for example, he is about to shoot a picture for a social agency, he will plan a documentary style which will accentuate the reality of the situations in the script. But, on the other hand, if he is called upon to film a picture about fashions, perfumes or similar luxury goods, he will summon all the glossy tricks at his command in order to glamorize the subject.

Showing what the client has to offer in a manner that is compelling often presents a problem. Sometimes there is very little that lends itself well to photography. Frequently, as in a film on some mechanical process, the important technical action takes place within housings and sealed receptacles which can not be exposed for purposes of photography. In cases of this sort the cameraman is required to use all of his originality to get the story across. Mechanical animation on celluloid or animated models are often the only means of coping with such situations.

The cameraman should approach each new assignment with a fresh point of view and try to use some techniques that are a bit off the beaten path. Such originality will do much to freshen up an otherwise static subject and will help build visual interest in the idea that is presented. The one limitation is that these unusual techniques should fit the subject and should not be so startling that they detract from the subject.

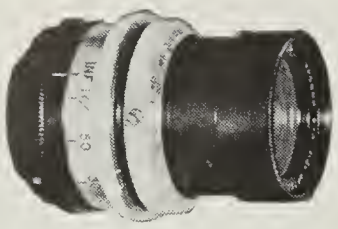
Until recently the photoplay and the commercial subject were thought of as two separate media with nothing in common. But now the trend is toward more dramatic handling of commercial subjects. This means that many photographic techniques of the photoplay can be applied to fine advantage in the commerical film. For this reason the commercial director of photography will do well to study the photographic handling of feature films and analyze them for effects that can be adapted to his own field of photography.

Lighting is perhaps the most important element in the photography of any picture which includes interior scenes, since lighting can build or destroy the atmosphere and mood of the film. Here, again, the key of lighting is dictated by the dramatic requirements of each sequence, plus fidelity to the source light that is indicated for that particular segment of action.

Lighting can do much to dramatize even a dull industrial subject. In black and white, dramatic side- or back-lighting can be used to good advantage. In Kodachrome, colored light strategically used can add actual beauty and pictorial force to static colorless machinery. Whether or not this treatment is permissible depends on whether the client wishes a flatly realistic representation of the subject (as is usually required in a scientific or training film), or a cinematically forceful impression of industry in action.

In photographing the commercial film the aim should be to keep the pace moving along at a good rate. This matter of pace is partially the responsibility of the director and the editor, but a great deal can be done by imaginative camera technique. *Pan, tilt* and *dolly* shots have movement of their own which, when properly applied, complement the action of the film and help to keep it "moving." Shots of this type should be motivated when possible, but in the commercial film it is often permissible to use them for no other reason than to force movement into an otherwise static subject. It is, of course, assumed that all moving camera shots will be executed smoothly and without calling attention to the technique itself.

Choice of lens and camera angle is especially important in the commercial film because the whole success of the picture may depend upon the manner in which the client's product or service is shown on the screen. The cinematographer cannot rely solely upon his artistic judgment in this regard, because the angle which he selects as being the most forceful from the composition standpoint may not be the one which shows details



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important to the client. The easiest way to solve this problem is to have a technical adviser from the client's staff on the set at all times to pass on each set-up as it is photographed.

The wide-angle lens is a boon to the commerical cinematographer for several reasons. First, it enables him to get adequate coverage on small sets or in situations in which he is unable to get back far enough from the subject to get a real long shot. Also, by allowing him to work closer to his subject and still get adequate coverage, it makes possible the closer placement of lights with a consequent reduction in the amount of light required. Highly dramatic composition of otherwise static industrial subjects may also be achieved with the wide angle lens.

The closeup really comes into its own in the commerical motion picture, because invariably there is a great deal of detail which can only be shown to best advantage when the camera moves in very close. Rarely can there be too many closeups in a well-made commercial film, provided that the cameraman re-establishes his subject adequately from time to time. Moreover, from the cinematic standpoint, closeups are pictorially forceful and add much to the impact of the film.

At first glance, the script for a commercial film may not seem to offer much for the imaginative cameraman to work with, but there is always some phase of any subject which can be built up pictorially and made visually forceful on the screen. There is a definite sort of beauty in industry: smokestacks puffing against the sky, the glow of blast furnaces, whirling machines, etc.—and all of these lend themselves to pictorial dramatization by the motion picture camera. The cinematographer should look closely at his subject, discard the idea that he is making a straight "nuts and bolts" picture, and concentrate on presenting the client's subject in the most forceful and visually attractive manner possible.

TELEVISION FILM CENTER

(Continued from Page 165)

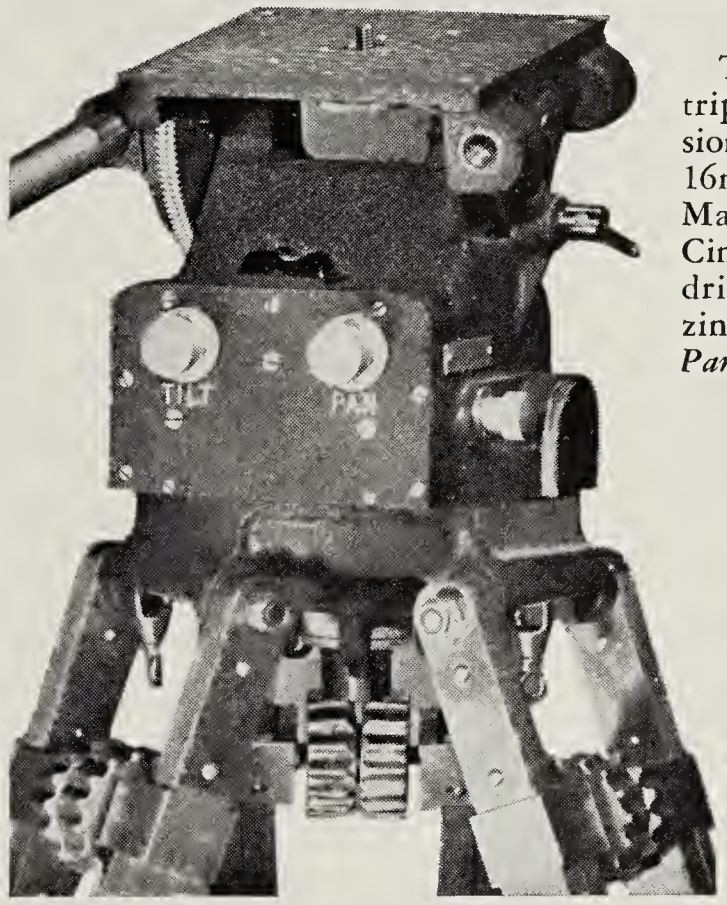
a plan whereby all aspects of set lighting will be prepared in advance of shooting. This will be done to save as much time as possible when camera and crew moves into a "cold" set. Obviously this will make for considerable time-saving and, of course, clip plenty dollars from production costs. In most cases, it is possible to shoot all the interiors on a given picture in a single day. "Invariably we shoot twice as many setups in a day for television films as is general practice in motion picture production," said Stine.

"Television film production, as prac-

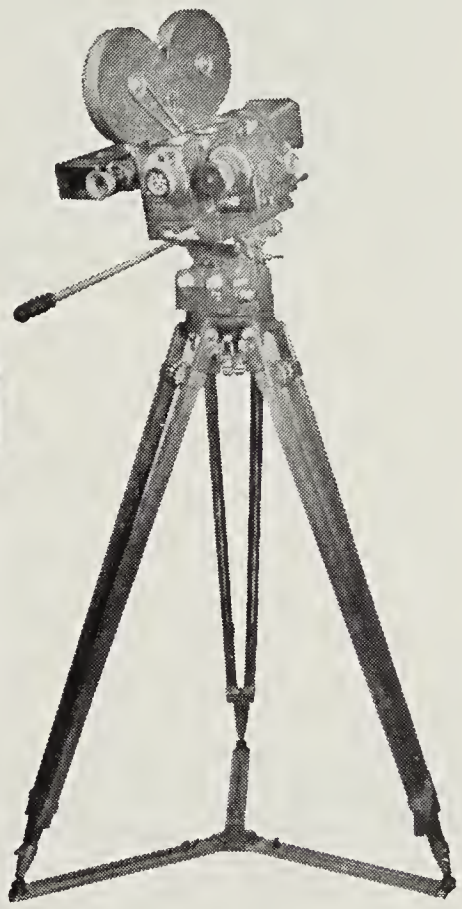
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uced on the Roach lot, requires close planning, quick decisions and no lost motion," Stine said, adding "There is no time for the tempermental. We have developed fine teamwork and this makes possible the low-cost production vital for television films."

Pre-production conferences between producer, cameraman, gaffer, grips and others connected with each production is common practice, and this, according to Stine, contributes to the smooth running of the team, once shooting on a picture starts.

The Roach & Beaudette organization naturally has made wide study of the importance of lighting to quality of TV films. Stine, of course, has been an important figure in these studies and was the first to point out the necessity for subduing the intensity of highlights and white areas in a television picture. Viewing the picture from the face of the television tube, the video viewer observes that the whites and highlights are often much too bright. This is because the viewer is not looking at a picture that is reflected from a screen but is seeing a picture under much the same conditions he would if viewing a movie on a translucent screen, where the highlights come through much stronger.

"Because of this," Stine points out, "it is important to tone down all white areas and highlights in films made for television so these areas will not 'burn through' in the televised picture."

Much has been said since the advent of films for television about following a "checkerboard" pattern in the overall composition of scenes; but Stine feels this can easily be overdone with consequent disasterous results. Scenes for television films must be kept as simple as posible, said Stine, and instead of retaining the balance of lighting normally used in feature film production, it is important to keep more definite separation between background and foreground objects—between the players and what lies behind them.

"Instead of following the 'checkboard' pattern," said Stine, "I believe it is better to avoid any form of sharp contrast in background patterns; to keep the walls in a moderate tone and to use light and shadows with discretion."

On the subject of makeup, Stine says recent studies show that most players in TV films should use darker makeup than they normally would for feature films. This results in better rendition on the TV receiver and avoids the washing out of features that has characterized so many early films made for television.

Hollywood's potential as the television center of the world can scarcely be discounted, in light of the wealth of technical talent available there, and especially with such men as Clifford Stine, members of the American Society of Cinematographers, and other technical groups pursuing exploratory studies in the field of television film production, and at the same time contributing the benefit of their findings to the television industry.

As to the future of the television film industry, Stine points to a recent development which may open up a tremendous field for television films. "One equipment manufacturer has just announced what it terms its 'basic buy' in packaged TV transmitters," Stine said. "This is a complete 500 watt television broadcast station made to operate with films and on coaxial cable network to start. Priced to sell in the neighborhood of $75,000, these packaged transmitters are certain to result soon in a marked increase in the number of television stations, especially in areas not served at present with video. And when one considers that films will make up the bulk of the program material for these stations it is easy to contemplate extent of the demands that eventually will be made on Hollywood for television films."

PRODUCTION METHODS COMPARED

(Continued from Page 163)

before anything else is done on a picture, to decide just what audience I'm aiming at, and then to keep my eye on that target from that moment on. But it is obviously uneconomic to shoot for a small audience, and a motion picture costing some hundreds of thousands of dollars, which has taken the efforts of one hundred or perhaps two hundred men, has no more business directing its appeal toward people with a special knowledge of film-making than exclusively towards, say, Seventh Day Adventists, or Atomic Research scientists, or Chicago meat-packers.

Now what of the actual techniques of picture making? I happen to have a liking, for instance, for a roving camera because I believe, as do so many other directors, that a moving picture should really move. And I have definite ideas about the use of cuts and fadeouts which, improperly handled, can remind the audience of the unreality of our medium and take them away from the plot. But those are personal prejudices of mine. I do not try to bend the plot to fit technique; I adapt technique to the plot. And that's the impotrant thing. A particular camera angle may give a cameraman—or even a director—a particular satisfying effect. The question is, dramatically, is it the best way of telling whatever part of the story it's trying to tell? If not, out it goes.

The motion picture is not an arena for a display of techniques. It is, rather, a method of telling a story in which techniques, beauty, the virtuosity of the camera, everything must be sacrificed or compromised when it gets in the way of the story itself.

An audience is never going to think to itself: "what magnificent work with the boom" or "that dolly is very nicely handled"; they are interested in what the characters on the screen are doing, and it's a director's job to keep the audience interested in that. Technique that calls itself to the audience's attention is poor technique. The mark of good technique is that it is unnoticed.

Even within a single picture, techniques should vary, even though the over-all method of handling the story, the style, must remain constant. It is, for instance, obvious that audience concentration is higher at the beginning of a picture than at the end. The act of sitting in one place must eventually induce a certain lassitude. In order that that lassitude should not be translated into boredom or impatience, it is often necessary to speed up things a little towards the end, particularly towards the end of a long picture.

This means more action and less talk, or, if talk is essential, speeches ought to be short, and a little louder and more forceful than they would be if the same scene were played earlier in the picture. Putting it bluntly, it's sometimes necessary to ham things up a bit. This rule was recognized very early in the picture business, and the old-timers used to say: "when in doubt, get louder and faster." They were putting it a bit crudely, but perhaps the rule still applies.

It takes a certain amount of tact, of course, to induce a good actor to over-act; and this is another argument in favor of shooting pictures more or less in sequence, because, once you have edged an actor into over-acting, it is, sadly enough, entirely impossible to edge him back again.

Direction, of course, is a matter of decisions. If it were possible to lay down a hard and fast rule that would cover all the decisions, all directors would be out of work. I shudder to think of *that,* but fortunately it's impossible.

The important thing is that the director makes his decisions when the need for them arises, and operates with as few rules as possible. The fewer rules you have, the fewer times you'll have to experience the unhappiness of breaking them.

Reprinted from *The Cine Technician* (London), courtesy of the publishers.

CURRENT ASSIGNMENTS

(Continued from Page 156)

M-G-M Contd.

• MARCEL LEPICARD, "Forgotten Women," with Elyse Knox, Theodora Lynch, Allen Hale, Jr., and Veda Ann Borg. Wm. Beaudine, director.

• HARRY NEUMANN, "Range Rogues," with Jimmy Wakeley, Cannonball Taylor, Gail Davis and Tom London. Oliver Drake, director.

Paramount

• GEORGE BARNES, "File On Thelma Jordan," (Hal Wallis Prodn.) with Barbara Stanwyck, Wendell Corey, Paul Kelly, Joan Tetzel and John Bromfield. Robert Siodmak, director.

• LEO TOVER, "My Friend Irma," (Hal Wallis Prodn.) with Marie Wilson, John Lund, Dianna Lynn, Don DeFore, Dean Martin and Jerry Lewis. George Marshall, director.

• ERNEST LASZLO, "Riding High," with Bing Crosby, Coleen Gray, Charles Bickford, Frances Gifford, William Demarest and Clarence Muse. Frank Capra, director.

• CHARLES LANG, "Copper Canyon," (Technicolor) with Ray Milland, Hedy LaMarr, MacDonald Carey, Mona Freeman and Harry Carey, Jr. John Farrow, director.

• JOHN SEITZ, "Sunset Boulevard," with William Holden, Gloria Swanson, Erich von Stroheim and Nancy Olson. Billy Wilder, director.

• JOHN ALTON, "Captain China," (Pine & Thomas) with John Payne, Gail Russell, Jeffrey Lynn, Edgar Bergen, Lon Chaney, Michael O'Shea and John Qualen. Lewis R. Foster, director.

R. K. O.

• HARRY WILD, "The Big Steal," with Robert Mitchum, Jane Greer, William Bendix, Patric Knowles, Ramon Navarro and John Qualen. Don Siegel, director.

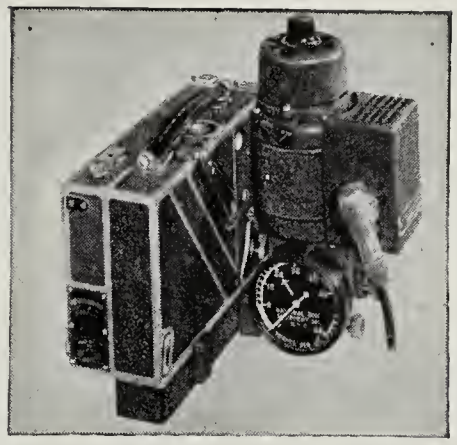
• JOE VALENTINE, "Love Is Big Business," with Claudette Colbert, Robert Young, George Brent and Max Baer. William D. Russell, director.

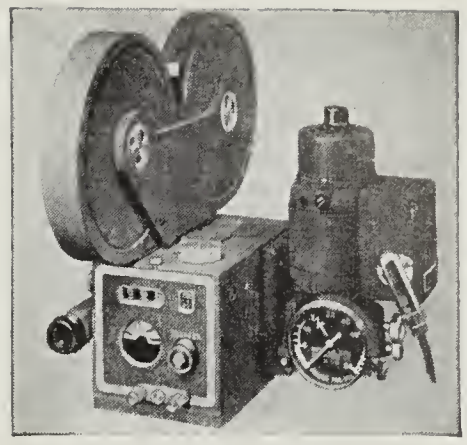
• NICK MUSURACA, "Renegade of the Rancho," with Tim Holt, Richard Mann, Edward Norris and Movita. Lesley Selander, director.

• NICK MUSURACA, "I Married A Communist," with Robert Ryan, Laraine Day, John Agar, Thomas Gomez and Janis Carter. Robert Stevenson, director.

Republic

• LEE GARMES, "A Strange Caravan," (Title since changed to "The Fighting Kentuckian") with John Wayne, Vera Ralston, Philip Dorn, Oliver Hardy, Marie





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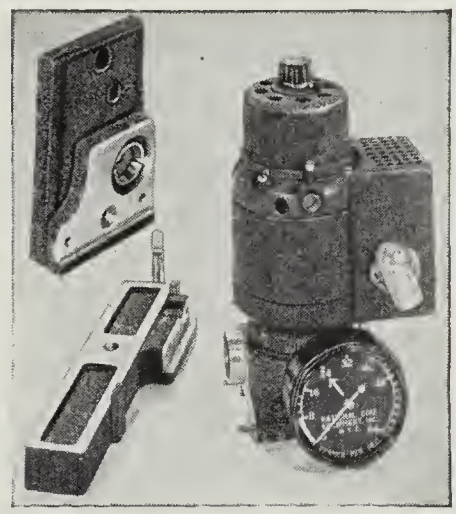
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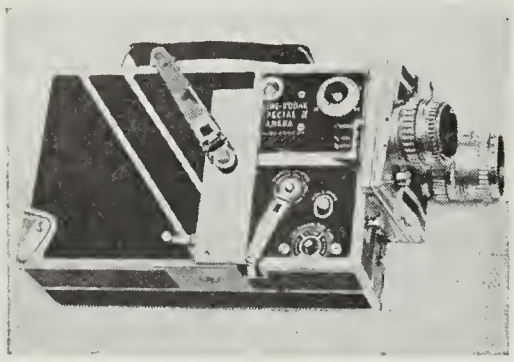
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• LLOYD AHERN, "Father Was A Fullback," (Technicolor) with Fred MacMurray, Maureen O'Hara, Betty Lynn, Rudy Vallee, Thelma Ritter and Natalie Wood. Elliott Nugent, director.

• JOE MACDONALD, "Pinky," with Jeanne Crain, William Lundigan, Ethel Waters and Basil Ruysdael. Elia Kazan, director.

• HARRY JACKSON, "Bandwagon," (Technicolor) with William Powell, Mark Stevens, Betsy Drake and Jean Hersholt. Irving Reis, director.

• MILTON KRASNER, "Three Came Home," with Claudette Colbert, Alan Marshall and Florence Desmond. Jean Negulesco, director.

• LEON SHAMROY, "Twelve O'Clock High," (Shooting In Florida) with Gregory Peck, Millard Mitchell, Hugh Marlowe, Paul Stewart, Gary Merrill and Dean Jagger. Henry King, director.

United Artists

• LIONEL LINDON, "Quicksand," (Rooney-Stiefel, Inc.) with Mickey Rooney, Jeanne Cagney, Barbara Bates, Peter Lorre, Patsy O'Connor.

Universal-International

• IRVING GLASSBERG, "Sword In The Desert," (Technicolor) with Dana Andrews, Marta Toren, Stephen McNally, Hugh French, Jeff Chandler and Liam Redmond. George Sherman, director.

• FRANK PLANER, "Come Be My Love," (Neptune Films) with Robert Montgomery, Ann Blyth, Jane Cowl, Chas. McGraw. Robert Montgomery, director.

• MAURY GERTSMAN, "Partners In Crime," with Howard Duff, Dan Duryea, Shelly Winters, Gar Moore and John McIntire. William Castle, director.

Warner Brothers

• TED McCORD, "The Octopus And Miss Smith," with Jane Wyman, Dennis Morgan, Allyn Joslyn, Eve Arden, Fred Clark, Ray Montgomery and Lina Romay. Michael Curtiz, director.

• WILFRED CLINE, "Always Sweethearts," (Technicolor) with Shirley Temple, Barry Fitzgerald, Lon McCallister and Alan Hale. David Butler, director.

• CARL GUTHRIE, "Barricade," with Dan Clark, Raymond Massey and Robert Douglas. Peter Godfrey, director.

• PEVERELL MARLEY, "Return of the Frontiersman," (Technicolor) with Gordon MacRae, Rory Calhoun, Julie London and Fred Clark. Richard Bare, director.

WHAT'S NEW in equipment, accessories and service

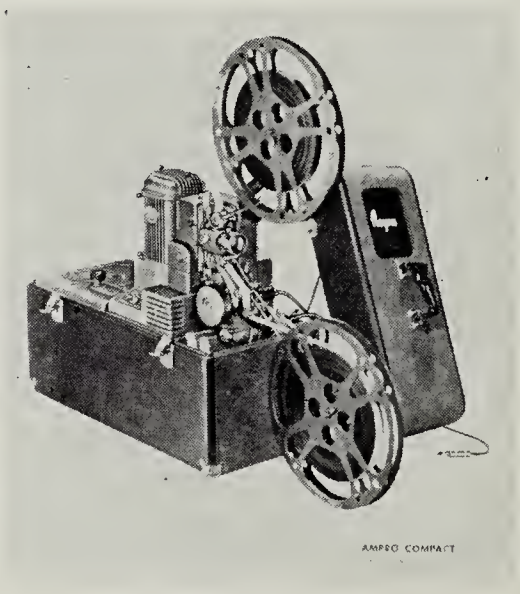
Synchronous Camera Motors

Producers Service Co., Burbank, Calif., announces a radically new synchronous motor for use with Bell & Howell, Mitchell and Acme motion picture cameras that provides a selection of fixed speeds at 24, 16, 12, 6, 3 and 1½ frames per second, simply by turning a convenient dial on motor case. A carefully engineered transmission of watch-like precision insures motor delivering full power at all speeds.

Ampro Portable

The Ampro Compact is name of new portable 16mm. sound projector announced by Ampro Corp., 2835 N. Western Ave., Chicago. Projector, sound unit and speaker are in one unit and may be quickly set up for use. Machine may be lifted to operating position from within its self-containing case, and the reel arms snapped in place. Speaker is mounted in lid of case and is placed beside projector when in use.

Features include silent and sound speeds; automatic rewind; uses up to



Ampro "Compact"

1000 watt lamp; 2000 ft. reels; and has rotating type sound drum. Removable front and rear covers facilitates servicing.

Projector Stand

A new portable projector stand for use in showing home movies is offered by the S & D Mfg. Co., 220 Fifth Ave., N. Y. When not in use, stand folds up to suit-



Collapsible Projector Stand

case size, holds reels of film and can be carried anywhere. Three collapsible tubular legs with rubber tips support a table top 15″x20″. A friction control lock insures against any slipping while unit is in use.

Model A for silent and small sound projectors, offering storage for one empty reel and six 400-foot 8mm. reels or four 400-foot 16mm. reels, sells for $28.50. Model B, for heavy sound projectors, sells for $36.50.

Hallen Magnetic Recorder

Simultaneously with announcement of the company's reorganization, Hallen Corporation announces a new, improved model of the Hallen synchronous magnetic film recorder. New model boasts improved amplifier and motors of special design which insure absolute synchronous operation, according to Hal Powell. Company head. The Hallen recorder is meeting new trend for recording sound films magnetically instead of optically, providing instant playback of picture sound tracks. Also announced is appointment of The Camera Mart, New York City, as exclusive Hallen distributor.

Movie Titles

Title Craft, 1022 Argyle, Chicago, whose titles were formerly marketed through Bell & Howell Company, now offer 8mm. and 16mm. titles direct to consumer. A wide variety of background effects are available and fades and disolves may be had. A free folder is available showing samples and giving full details of service and prices.

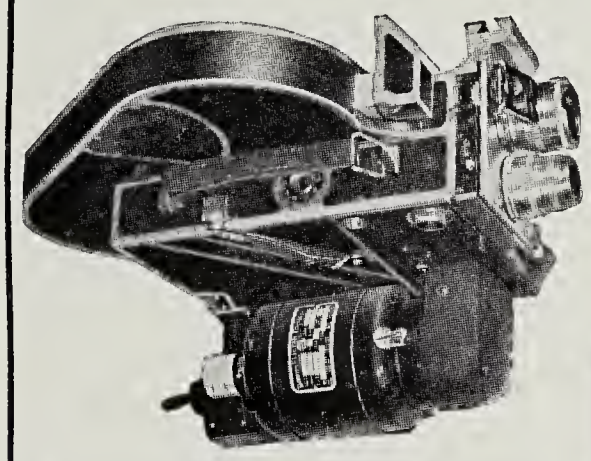
Price Reduced

"General Motors and Henry Kaiser are dropping prices and I am doing the same," says Joseph Yolo, in announcing reduction in price of his automatic dissolve for Cine Special cameras from $60.00 to $54.00. Device permits making professional-like dissolves right in the camera.

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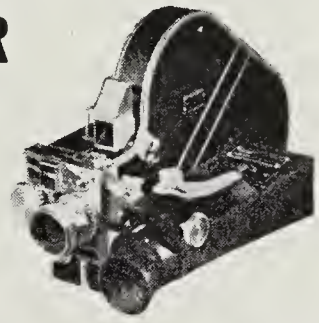
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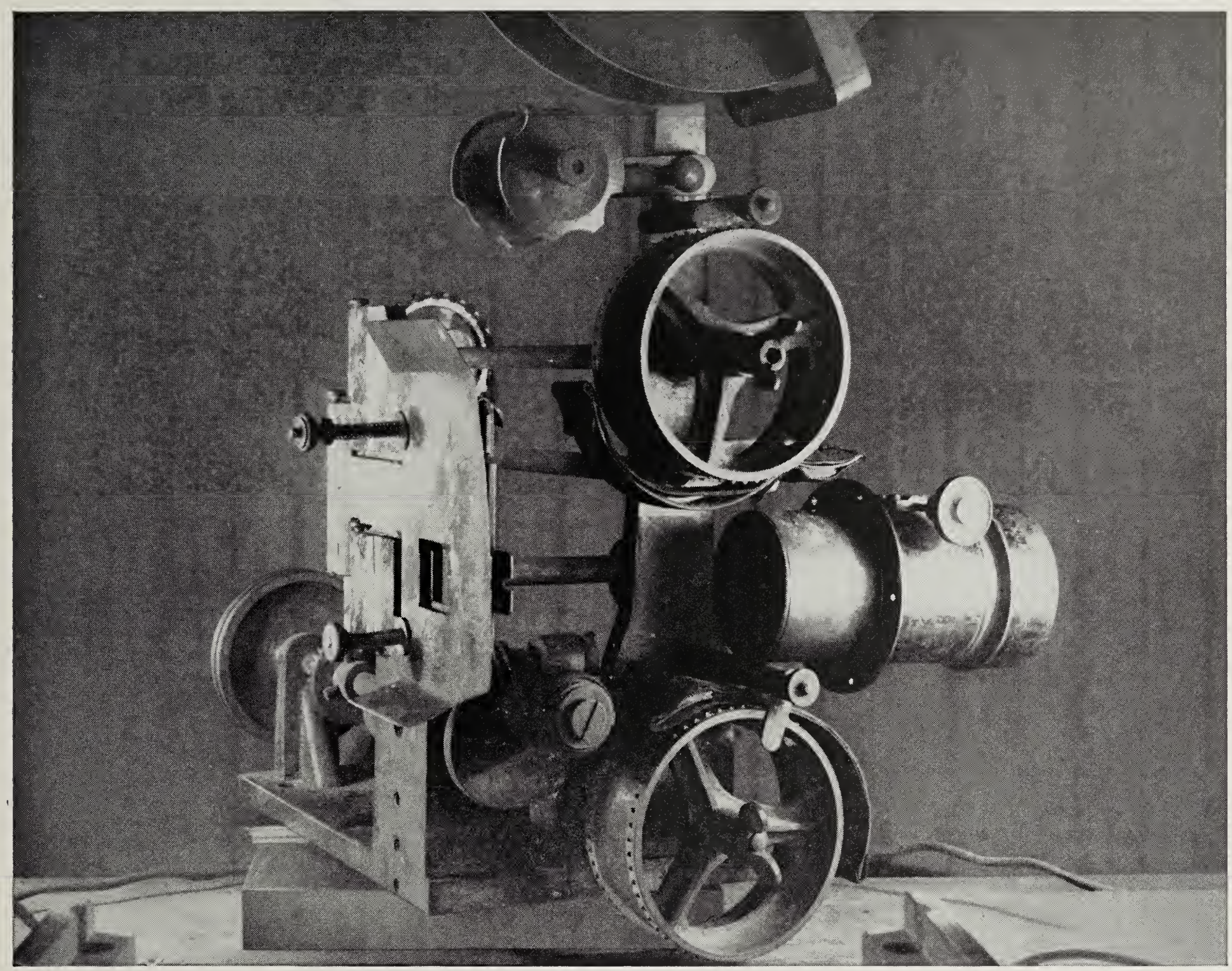
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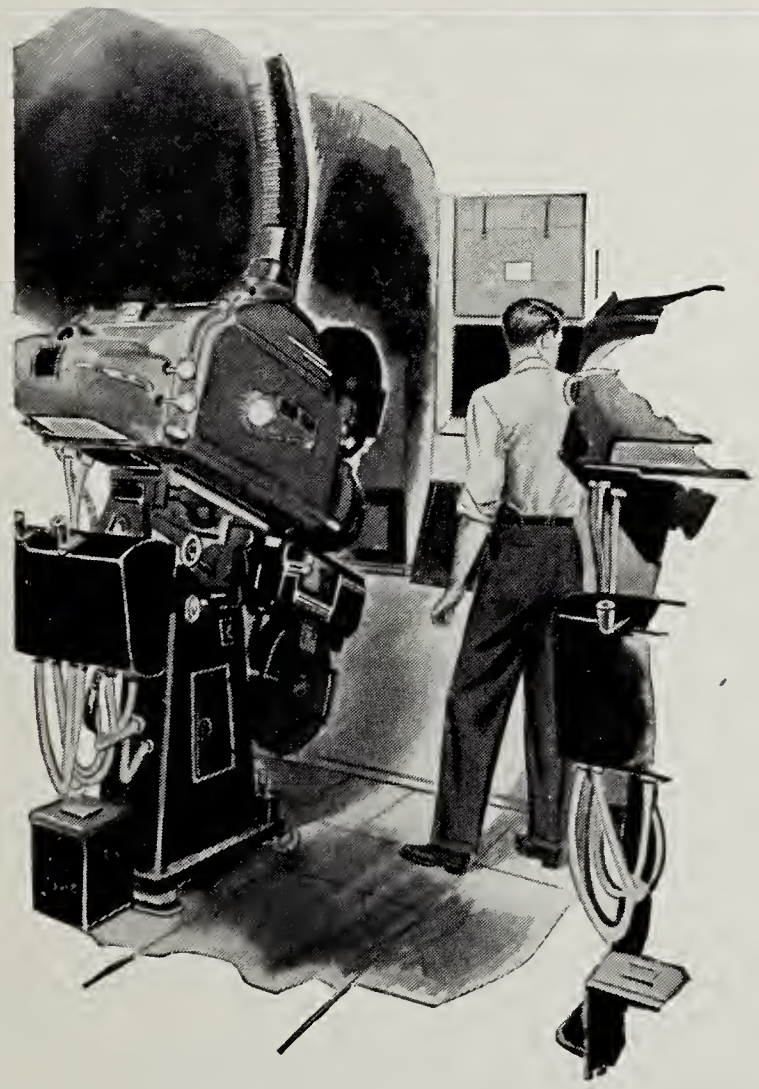
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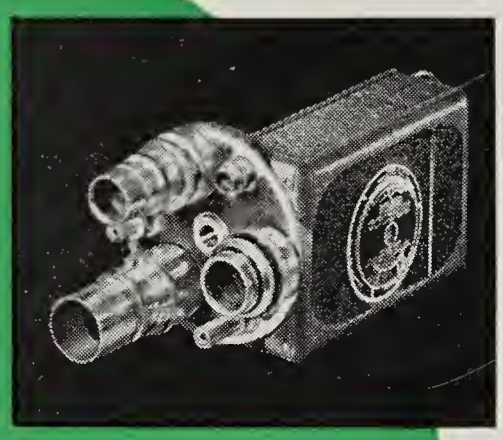
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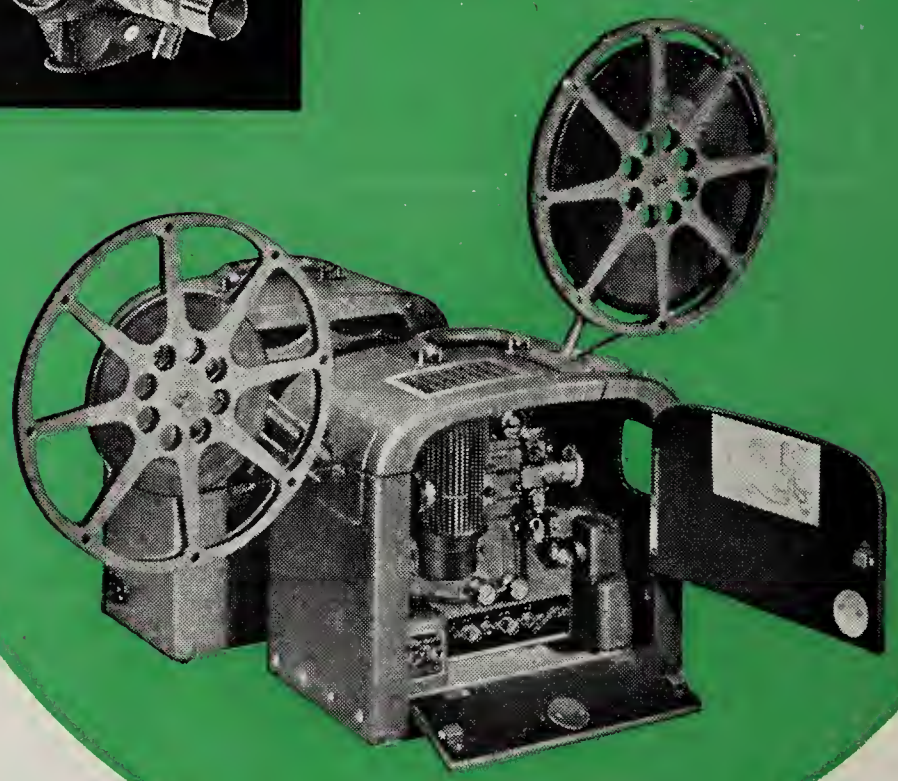
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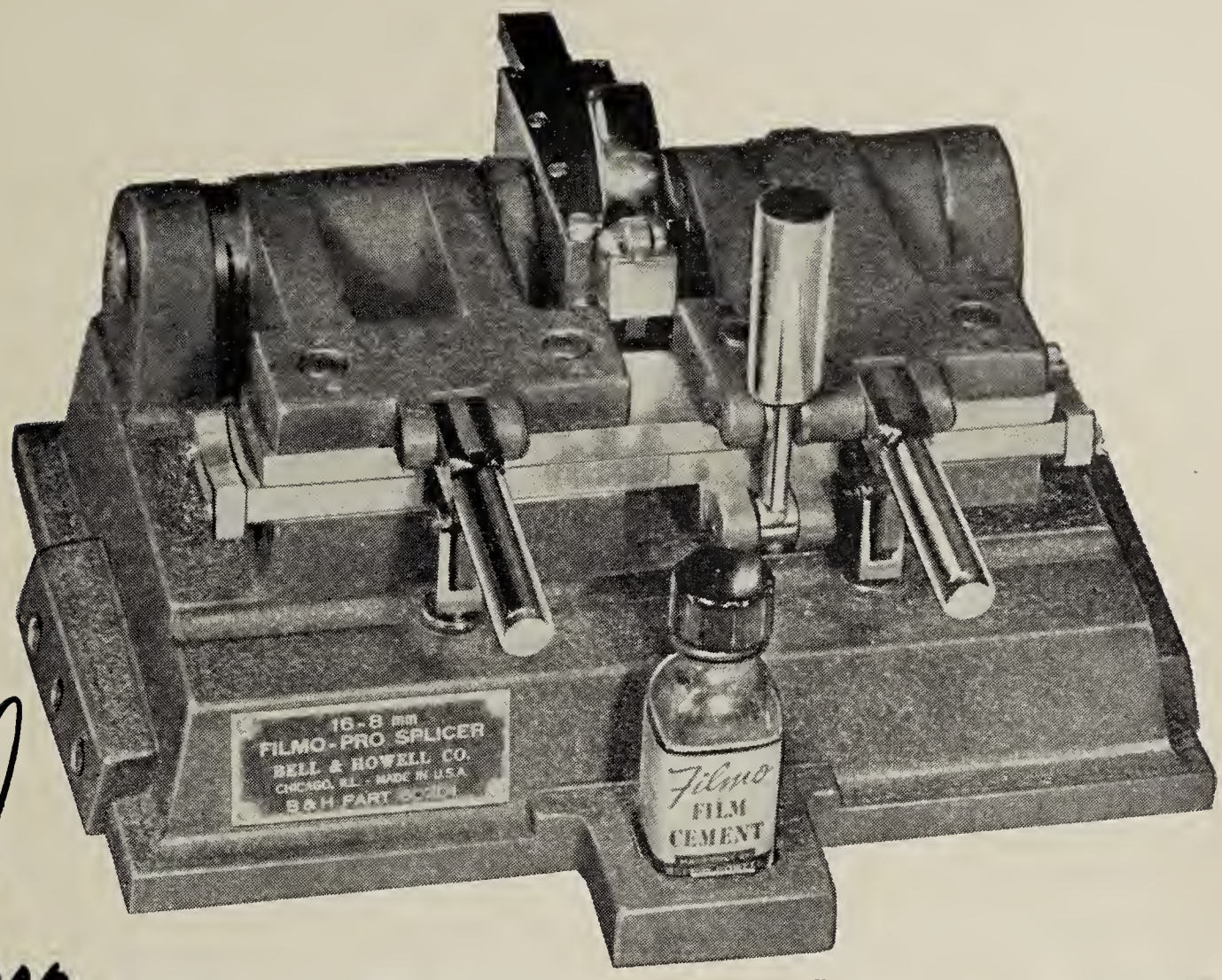
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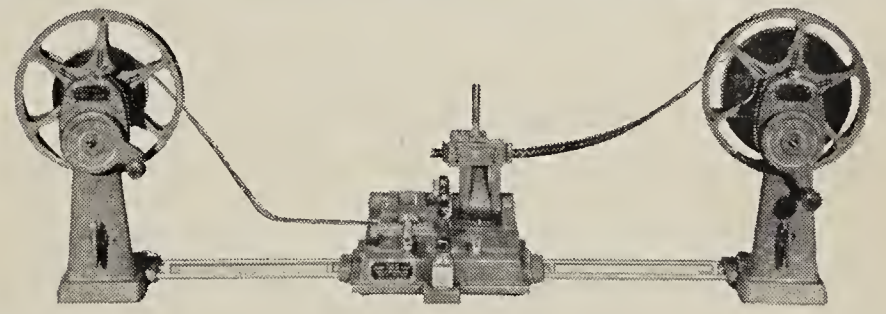
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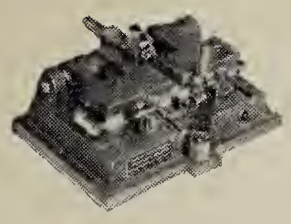
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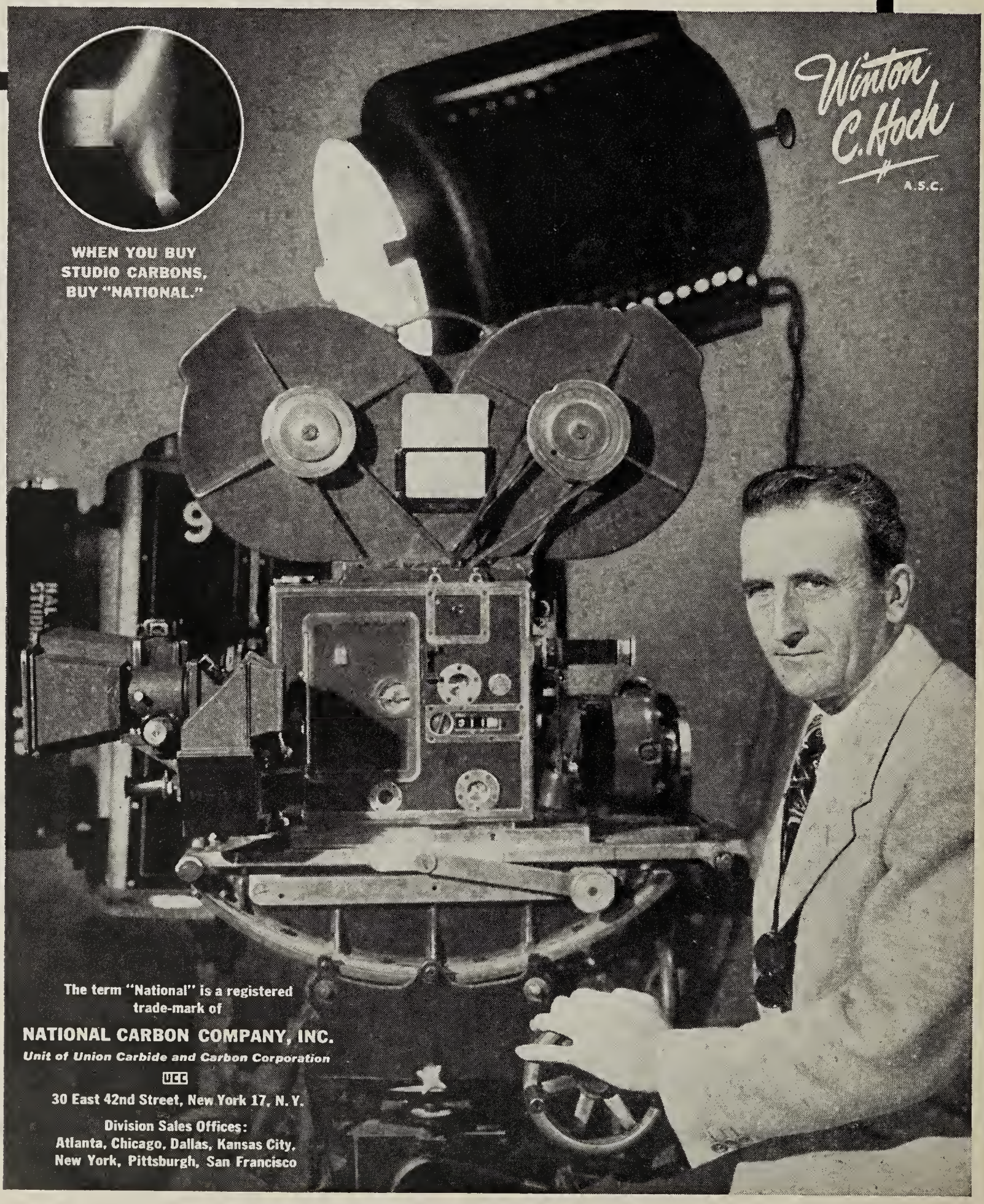


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The Society meets regularly once a month at its clubhouse at 1782 North Orange Drive, in the heart of Hollywood. On November 1, 1920, the Society established its monthly publication "American Cinematographer" which it continues to sponsor and which is now circulated in 61 countries throughout the world.

Dominant aims of the Society are to bring into close confederation and cooperation all leaders in the cinematographic art and science and to strive for pre-eminence in artistic perfection and scientific knowledge of the art.

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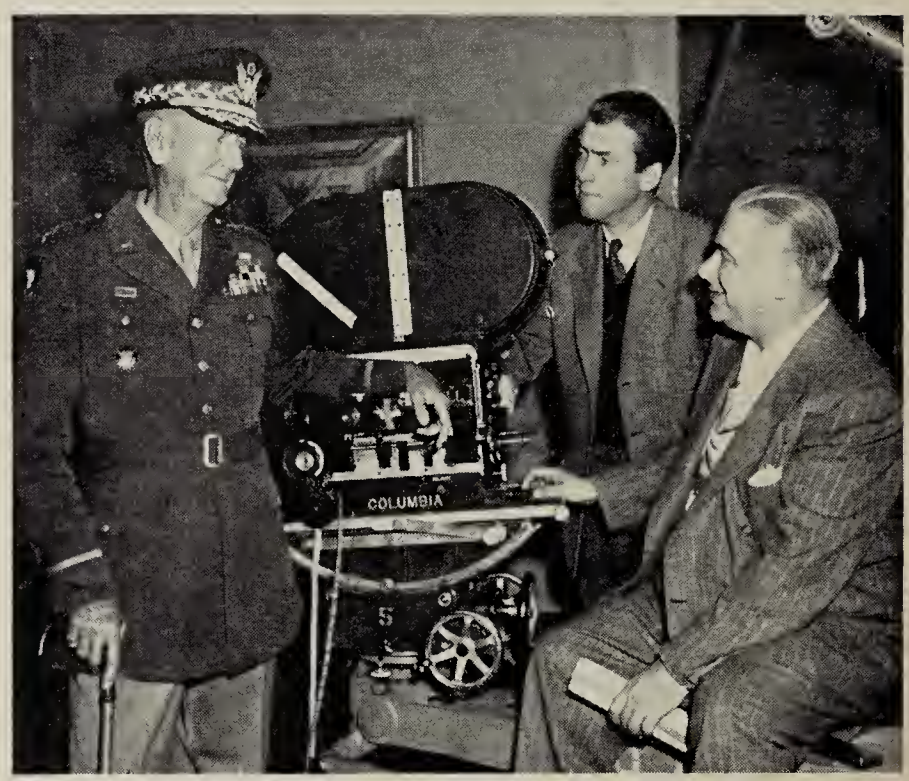
VINCENT FARRAR, A.S.C., (second from left) in a between scenes conference with Penny Singleton, director Edward Bernds and Arthur Lake, on the "Blondie's Hero" set, points out how a suggested switch in the action will give him a better camera angle. "Blondie" is calling instructions to her standin going through suggested routine on the set.—Photo by Warner Crosby.

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1949 by A. S. C. Agency, Inc. AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.

Hollywood
Bulletin Board



"A SWELL PICTURE!"—Fred W. Jackman, A. S. C., (left) and Arthur Miller, A. S. C., congratulate Robert Stillman, Associate Producer, Screen Plays Corpn., on his recent hit production, "Champion," which Stillman screened for A. S. C. members at opening of Society's new projection room last month.



GENERAL APPROVAL—Gen. Jonathan Wainwright meets with actor Jimmy Stewart (center) and Ralph Staub, A. S. C., who together with writer Owen Crump produced a ten-minute short, "How Much Do You Owe?" gratis for Disabled American Veterans, of which Wainwright is national commander. Purpose of short is to build sales for Vets' "Indent-O-Tags," key-ring auto license plate miniatures sold by mail.

CHARLES G. CLARKE, president of the A.S.C., and John Boyle, A.S.C., have been re-elected to Board of Governors of the Academy of Motion Picture Arts and Sciences. Clarke currently is in Berlin to photograph a picture based on the airlift for Fox.

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JACK CARDIFF, A.S.C., who won an Academy Award two years ago for photography of "Black Narcissus," is in Morocco shooting "The Black Rose" which Henry Hathaway is directing for Twentieth Century-Fox.

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GEORGE FOLSEY, A.S.C., recently returned with George Cukor from New York where he photographed background shots for "Adam's Rib," M-G-M production.

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FRANK PLANER, A.S.C., sailed for Europe, May 1st, to visit relatives in Vienna and to enjoy a long-overdue vacation. Mrs. Planer accompanied him.

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HAL ROSSON, A.S.C., planed to New York City recently to photograph background footage for M-G-M's "On The Town," which is being directed by Kelly, who also is the star.



PROVING AN IDEA — Recent guest of Charles Rosher, A. S. C., (right) and screen director George Sidney (left) at MGM was Harris Tuttle, Eastman Kodak exec and head of Motion Picture Division of P. S. A. Trio collaborated on demonstration tending to show economic advantages of using 16mm. Kodachrome for screen tests.

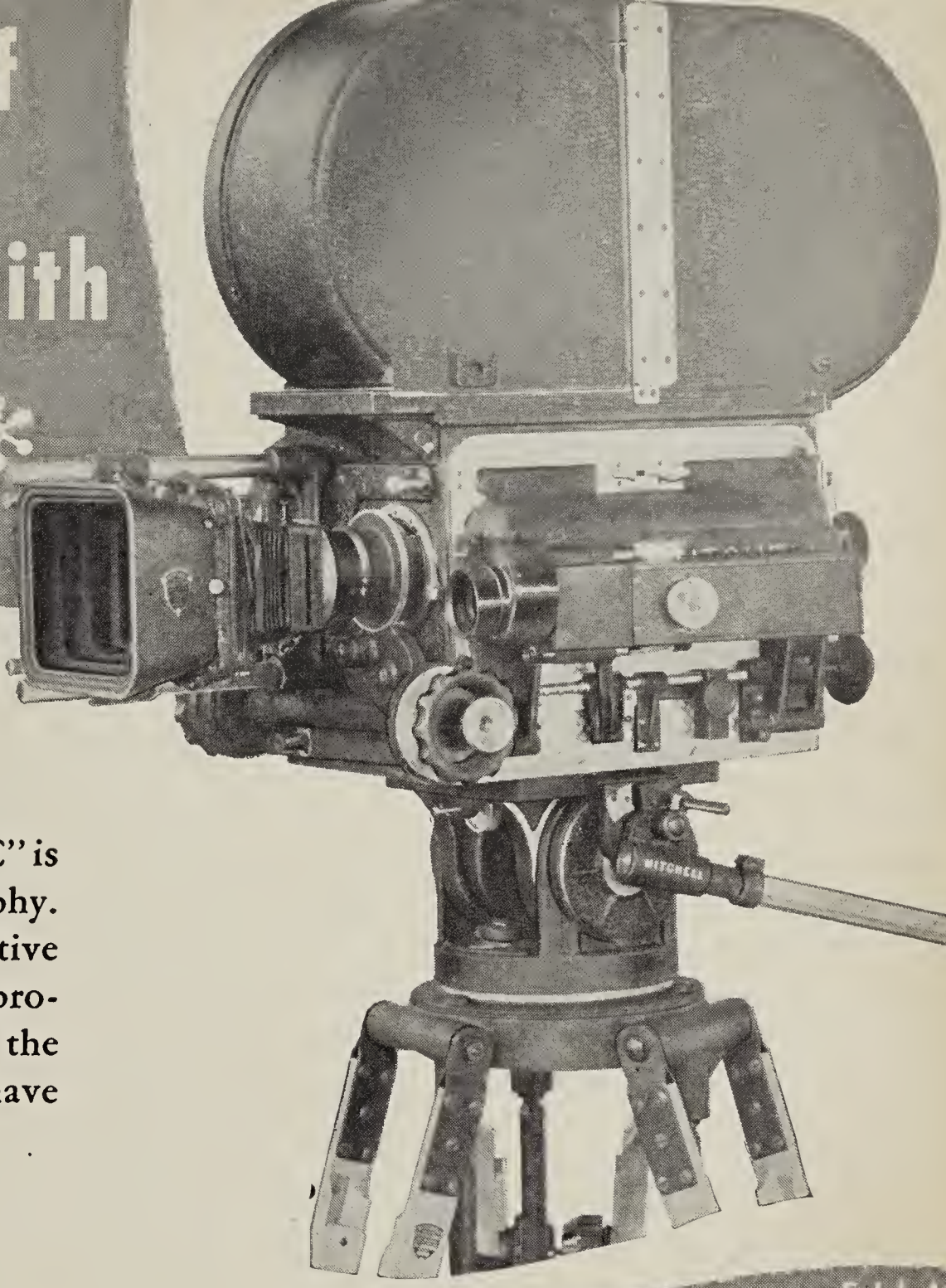
TECHNICOLOR and Eastman Kodak Co., have developed a new type negative for the three-strip Technicolor cameras. Stock is claimed to be 100 percent faster than present film, will allow considerable saving in illumination costs. Test rolls have been shot by most of the major studios for comparison.

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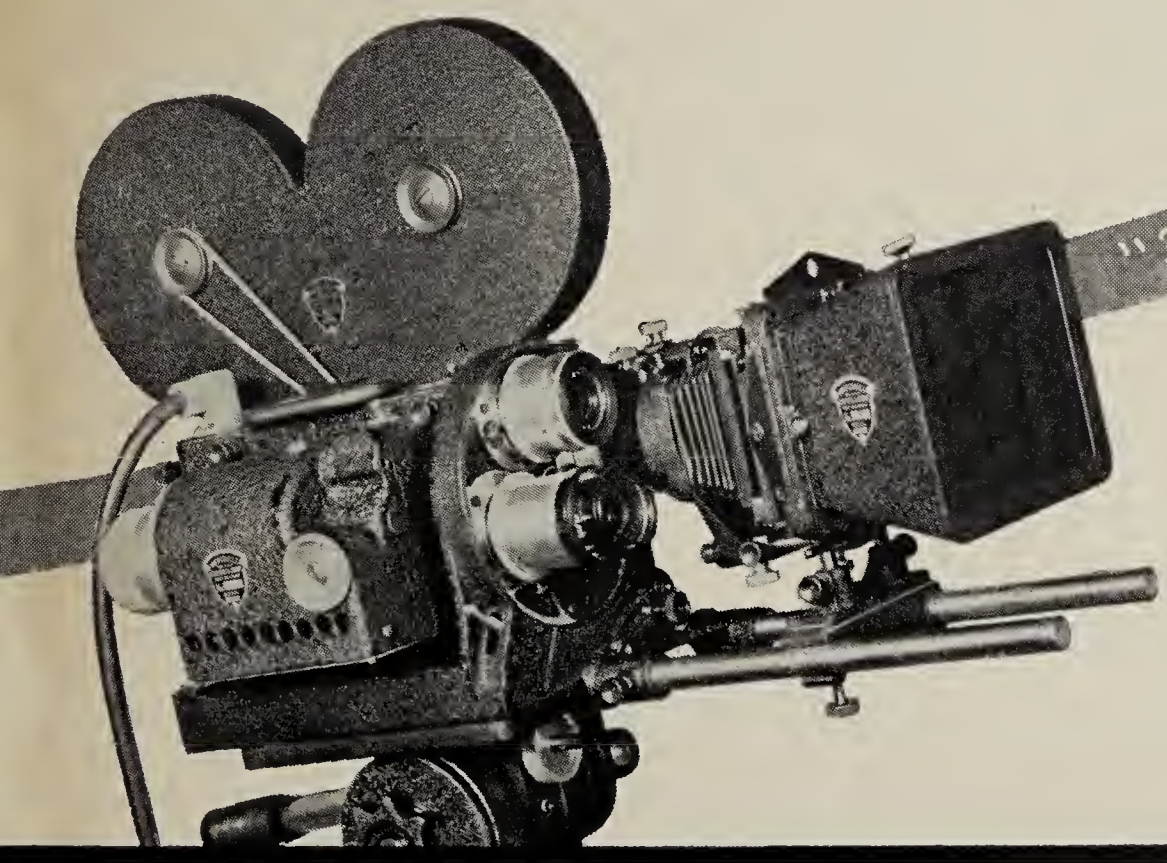
HARRY STRADLING, A.S.C., goes to Samuel Goldwyn Studios as head cameraman

(Continued on Page 224)

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85% of the motion pictures shown in theatres throughout the world are filmed with a Mitchell



BEHIND THE SCENES — The camera shown here being used for a moving closeup of Kirk Douglas as he enacts role of a fighter in "Champion," is a combat veteran formerly employed by the U. S. armed services to photograph actual warfare. Hollywood is converting these cameras to studio use wherever realistic action scenes are needed. Second cameraman Perry Finnerman is shooting while being wheeled around the ring on a baggage handler's truck.

Champion

. . . a two-fisted picture made startlingly real by skillful photography

By RALPH LAWTON

WHEN I talked with Frank Planer, A.S.C., on the eve of his departure for Europe, he still was as enthusiastic about the photography of "Champion" as when first he started the cameras rolling on the picture several months earlier. "'Champion' has set a new precedent in the production of motion picures," he said. "There's a new method of making pictures in Hollywood today that ignores the old, so-called "star" system. Instead, it places emphasis on careful pre-production planning, on the value of an enthusiastic and tightly-integrated production crew, and recognizes the director of photography for the valuable contributions he can make in the planning of a picture as well as in its photography. 'Champion,' produced by Stanley Kramer for Screen Plays, Corp., is an example of the type of successful picture being produced by this method."

Very often, when a motion picture scores outstanding success, there is the tendency to credit all to the star of the picture; the star's success becomes the picture's success, and vice versa. Actually, of course, the star plays only a nominal part in its success. First there has to be a good story — an exceptional story — and there must be a good script. There must be a good director and a good cameraman, too. Screen Plays' "Champion" had all these.



REAL PROBLEMS in lighting and camera movement were posed for director of photography Frank Planer, A.S.C., in this Santa Monica roadside inn where much of the early action in "Champion" is played. Here scenes were shot with camera mounted on the counter or a stack of pop bottle boxes. Windows in background had to be covered with blue cellophane to permit balancing light.



LEAP FOR LIFE — Kirk Douglas leaps from a camera car and down an embankment for a scene in "Champion." In the picture it emerges as a leap from a freight train at night, through Frank Planer's cinema magic and lens filters.



IN FOCUS — A camera aide measures distance from lens to Douglas' money pocket, as Frank Planer (right of camera) prepares to film exciting scene of fight in a boxcar.

"Champion" graphically dramatizes the rise and fall of a pugilist amid the glamour and corruption of the boxing game. Briefly, the story concerns unemployed Kirk Douglas who, with his brother, played by Arthur Kennedy, are riding the rods west. The two are beaten and robbed in a boxcar by a gang of hoodlums, and escape by jumping from the car as the train moves over desolate hill country. They are picked up and given a ride to the nearest town by a kindly motorist who turns out to be a popular ring champ. This chance meeting ultimately leads Douglas into the fight game and ironically it is the motorist who is to become his opponent in a critical match at the height of his career. How Douglas gets into the fight game, works his way to the top, becomes involved with gamblers whom he double-crosses, and the inevitable result, furnished exciting dramatic opportunities not only for the picture's stellar cast of comparatively unknowns, but also for Frank Planer, who directed the photography.

Once he had a good script developed from the Ring Lardner original story, producer Kramer started his art director planning the picture. During the first pre-production conferences, on which script writer, art director, and director sat in along with Kramer, rough sketches were made of all the action in every sequence. When the story was thus planned in semi-graphic form, an artist was called in and the whole picture laid out in story board form. This constituted the basic action as developed by the producer, director, script writer and art director. They were now ready for consultation with the cameraman.

In the meantime, Frank Planer had been selected to direct the photography. Having read the script, he was given the storyboard to study and here began a series of further pre-production conferences which afforded Planer opportunity to contribute additional ideas for cutting costs, saving time or enhancing the pictorial impact of a scene. He accompanied the production staff in scouting location sites, and this gave him opportunity to pre-plan his camera setups on exteriors as well as to offer technical suggestions that would contribute further to the economy of the production.

But the most important pre-production planning, and probably the most time- and money-saving was the rehearsal sessions held before the camera started shooting. Before a single scene was filmed,

(Continued on Page 216)



AT TWENTIETH CENTURY-FOX studios, Sol Halprin, A.S.C., (center) supervises both the laboratory and the camera department, which accounts for the consistent high quality of TCF's films. Here he consults with his two capable assistants, Tom Ingman (left) and Henry Goldfarb.

It's The Print That Counts

After the takes are canned and sent to the lab, exacting methods of testing, developing and printing follow to insure maximum pictorial quality on the screen.

By CLEMMIE GALLOWAY

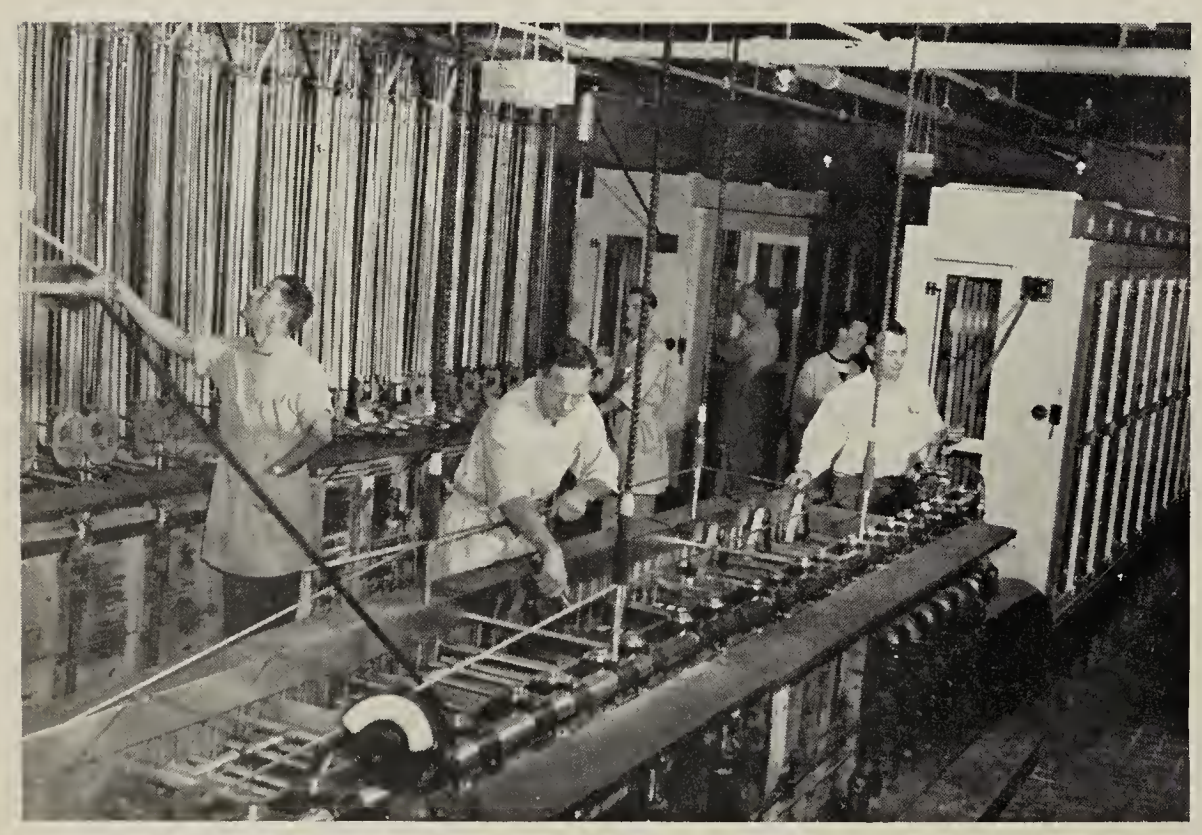
THE DIRECTOR of photography's interest in the film he daily exposes in his camera does not cease with its exposure and subsequent removal to the laboratory for processing. After it is shot, just as much detail and attention is expended on it in the laboratory to insure the maximum of photographic quality. The cinematographer's immediate interest continues until the film is developed and printed and the rushes screened in the studio projection room. It is the daily rushes, which every cameraman sees screened when time and schedules permit, that enable him to keep a check on his immediate work — lighting, exposures, composition, etc.

In some studios, like Twentieth Century-Fox, the two operations — photography and processing—are considered so interrelated that one man supervises both the cameramen and the men who develop and print the films. The overall responsibility for the high quality of TCF's films is that of Sol Halprin, A.S.C., who, besides being superintendent of the laboratory, is head of the camera department.

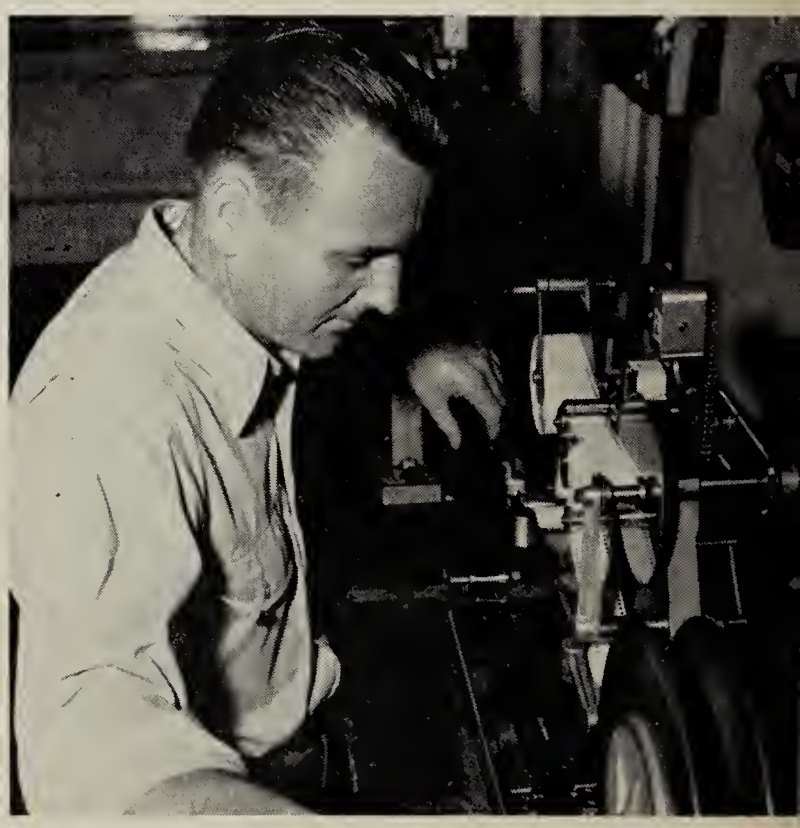
The scientific precision, exactitude, and cleanliness of a hospital operating room are found in the TCF Western Avenue laboratory. The stress on cleanliness is of utmost importance for if any dirt gets on the film it will mar and even scratch the negative and consequently be visible on the prints.

As in an operation the patient's life depends on the skill of the surgeon and the perfection of the implements, the studio's life — the day's shooting of film — depends on the skill of the laboratory workers and their equipment.

Concentrated in that can of film arriving at the laboratory at the end of each day is a fortune. The many millions of



THE TCF negative developing crew works unhamered in total darkness, relying upon keenly developed sense of touch and timing. Negative film is developed at rate of 90 ft. per min.



THE PICTURE negative is tested on Cinex testing machine by Harry Rehman who prints the specimen guide strips.

dollars spent each year is represented on that bit of celluloid.

Before the processing of film begins at 6 o'clock in the morning, the night crew has already completed its work of washing the developing machines, changing developing solutions, and doing everything necessary to enable the day crew to start immediately so that the daily rushes can be ready for screening before TCF's studio executives by 4 o'clock in the afternoon.

No actual production negatives can be developed until sensitometric strips are developed and read to insure that the density and contrast of the developing solutions are correct. The strength of the solutions must be the same, not only for a given day's work but from day to day, and this is accomplished by developing and reading sensitometric strips continuously while the developing machines are in operation.

Before the negatives are sent into the developing room, the cans containing sound film are separated from those containing picture film. The foreman of the negative developing room and his crew work in Stygian darkness by sound and feel, rather than by sight.

The next step occurs in the testing room. Sound negative is timed on a densitometer and the picture negative is tested on a Cinex testing machine. The latter machine prints a strip of film about nine inches long in one-frame exposures from each negative scene to be printed, each frame changing in density from lights 1 to 22. These lights match in density with the corresponding lights on the printing machines.

After the Cinex test is developed, it is taken to the timing room where the printing light best suited or each scene is determined. The negative is then cleaned and taken to the printing room where it is printed on model D Bell & Howell printing machines. Each scene has a small notch in the edge of the film, near the first frame. When this notch contacts an "interrupter" in the printer mechanism it rings a buzzer which indicates to the operator that a change in printing light is required. This change is made manually by the operator. Although there are 22 light changes on the printing machines, most of the negatives at TCF stay within a range of three or four printing lights.

After the negatives are printed, prints are taken to the positive developing room for processing. The negative is then broken down or separated into individual scenes and filed in vaults according to the production category. The developed positive print then moves to the positive assembly room where it is assembled, synchronized for picture and sound, and then waxed. Waxing prevents the freshness of the emulsion from gumming up the projection machines and consequently tearing the film.

In the projection room all picture prints are reviewed individually to insure that both picture and sound quality are correct.

The laboratory operates without any waste of film, and salvages all waste silver from the used hypo solutions. Raw film averages from 1½ to 2½ ounces of silver per thousand feet, and after it goes through the hypo bath in course of development, the unused silver is removed from the emulsion. The silver thus salvaged is molded into bricks which assay over 99% pure silver. Each brick weighs about 90 pounds and at present there are 19 bricks on hand, stored in vaults, to be sold.

The master print of each production, like a designer's pattern, is sent to the laboratory where the negative is cut to match it, so that the finished prints intended for showing in the nation's theatres each will conform with the master print.

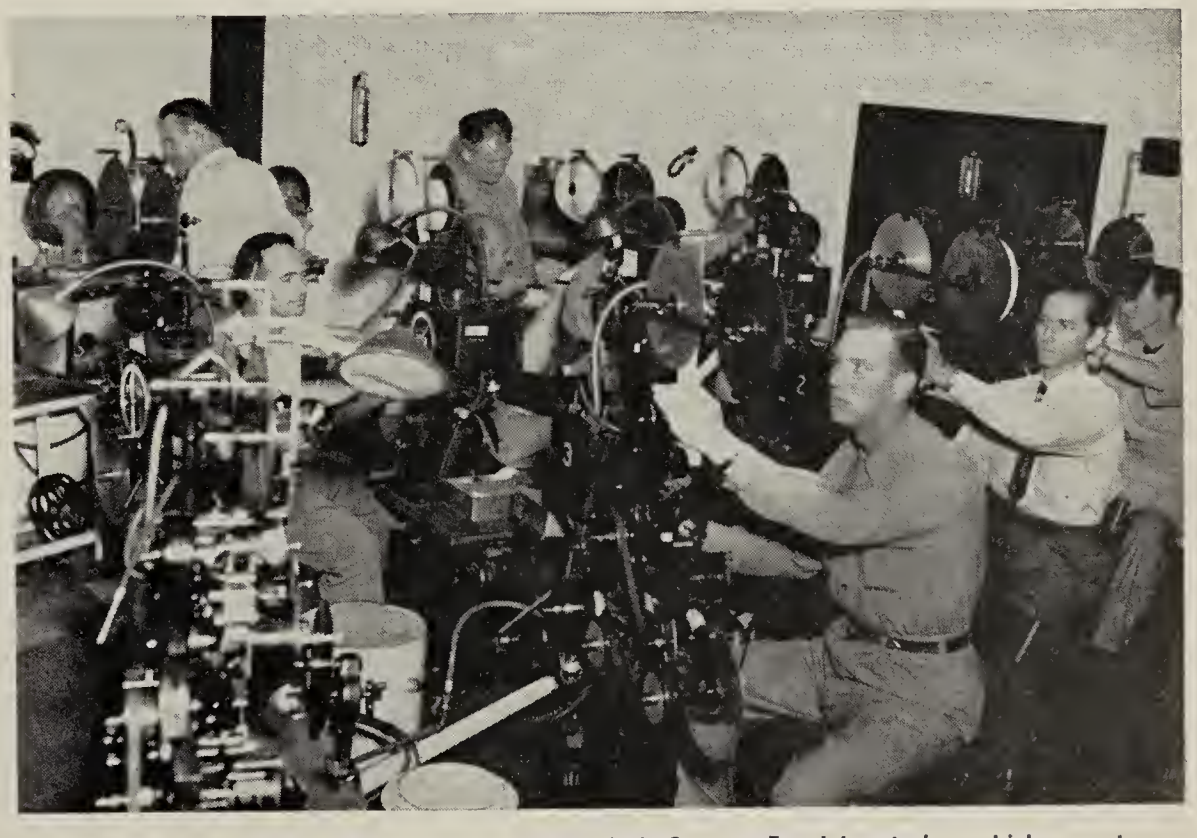
Thus setp by step, the film emerges from the camera; goes to the laboratory, where it is given pre-developing tests, then developed to a negative. The negative is then tested to determine correct printing lights, and the positive prints for projection made. These in turn are waxed to safeguard emulsion against damage. The original negative, then, is broken down into individual scenes or sequences and filed in fireproof vaults.

"Exactitude and precision are necessary in every phase of laboratory work," said Sol Halprin, adding, "The developing solutions and film drying cabinets must be kept at a definite temperature, for if the temperature varies the density of the film would vary."

Negative film is developed at the rate of approximately 90 feet a minute, according to Halprin, and positive film at approximately 160 feet per minute. During 1947, just to take the handiest record, 21,652,189 feet of film was processed at Twentieth Century-Fox's laboratory. According to Sol Halprin, this figure will be greatly exceeded during 1949. Contributing footage during 1949 are cinematographers L. B. Abbott, Lloyd Ahern, Arthur Arling, Norbert Brodine, Walter Castle, Charles G. Clarke, James Gordon, Edwin and Ralph Hammeraas, Allan Irving, Harry Jackson, Milton Krasner, Joseph LaShelle, Joe MacDonald, Arthur Miller, Ernest Palmer, Leon Shamroy, Edward Snyder, J. O. Tayler and Dewey Wrigley—all members of the A.S.C.



AFTER the Cinex test, Fred Danashew and John Fritch determine the correct timing and printing light for film.



ONE OF the large printing rooms at the Twentieth Century-Fox laboratories, which operates in total darkness. All printing is done on model D Bell & Howell printing machines.



ONE OF several scenes in "The Fountainhead" in which Bob Burks, A.S.C., combined skillful lighting and camera work with an excellent process plate and miniature structure to produce an effective pictorial composition. The angular appearance of background structures in this picture was caused by peculiarities of the still camera lens, is not apparent in the production scene.

Robert Burks, A.S.C., Photographs

The Fountainhead

By HERB A. LIGHTMAN

"THE FOUNTAINHEAD," as produced by Warner Bros. Studios, is a handsomely mounted, beautifully designed, and imaginatively photographed motion picture. Adapted from Ayn Rand's best-selling novel of the same name, it is the sophisticated story of an architect whose extremly advanced ideas of functional modern architecture place him in constant conflict with those who favor the outmoded cliches of pseudo-classic design.

Simply stated, it is the story of a clash between two sharply opposed artistic ideologies which the author uses to symbolize a broader conflict between the forces of progress and reaction. Interwoven with this lofty theme is a torrid romance between the incredibly "calm, cool and collected" architect and a beautiful young heiress who quite obviously suffers from an excess of hormones.

Interspersed with the amorous thrashings-about of these two worldly creatures is a good deal of philosophy based upon the concept that a man's artistic ideals are sacred and inviolable, and that he has a right to defend same even if it means blowing up a whole housing project. Fans who enjoy reading the highly popular novel may ponder the usual conjecture as to whether the film is as good as the book. Those who view the film without having read the book may find the continuity a bit jumpy as the result of motivating situations which had to be omitted in order to boil the story down to normal running time. But ignoring pros and cons as to the picture's dramatic worth, it must be agreed by all hands that "The Fountainhead," judged purely from the viewpoint of visual presentation, is a brilliantly conceived and executed blend of camera art and architecture.

Robert Burks, A.S.C., one of Hollywood's youngest and most original directors of photography, combined lens and light-



THE architecturally modern interiors of "The Fountainhead" combined beauty of functional design with economy of set construction, simplified the lighting.



THE QUARRY location with its jutting rock shelves and massive monoliths afforded wide play for Burks' compositional talents with striking pictorial effect.

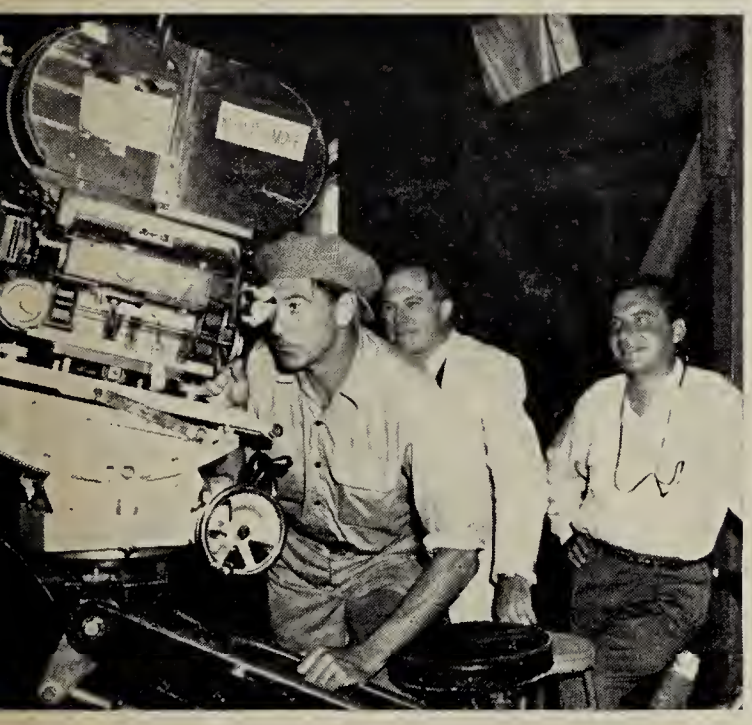
ing to produce a clean modern style of photography that is perfectly keyed to the mood and theme of this unusual story. Burks worked very closely with director king Vidor and art director Edward Carrere in pre-planning the visual conception of the film. They all agreed that the settings and camera approach should be kept as simple as possible, since simplicity and functionalism were fetishes with Howard Roark, the story's hero.

"Our main problem," Burks points out, "was to present our story in sharply dramatic fashion, without cluttering it up with frills of technique. This meant that settings and camera treatment had to be designed to complement each other, and to accentuate the impression of dramatic simplicity. The sequences dealing with the protagonist and his functional ideas were presented in this manner. By way of dramatic contrast, the sequences dominated by characters representing the old-fashioned approach to building design, were photographed in a conventional style. By contrasting the two types of photography we aimed to sharpen the gulf between the two opposing trends of thought in the story."

Using this formula of camera treatment, the photography became a graphic ally of the hero—an effect which is, of course, *sensed* rather than consciously noticed by the audience. Throughout these sequences, single lighting units were used as source illumination and a minimum of fill light was employed in order to preserve the clean black and white quality that is so forceful in pointing up the action.

The photography of the film draws great power from the dynamic compositions which the cinematographer used to frame his scenes. The sweeping lines of the modern architecture formed excellent patterns with which to work, and Burks

(Continued on Page 220)



GARY COOPER, who plays Roark, checks a camera set-up while Burks (right) and director Vidor look on.



SUCCESS and scope of the Berlin airlift provided newsreel photographers in Europe with first real postwar "news subject." John Dored, A.S.C., covered the activity in all its phases for Paramount News.—Int. News photo.

Newsreeler's Dilemma

Our changing world poses problems for the newsreel photographer, too

By JOHN DORED, A.S.C.



John Dored, A.S.C.

IF, AFTER DISCHARGE from the army, a Hollywood cameraman returned to his former studio and found the stages in ruin and his best actors gone and replaced by new faces devoid of personality and color, he would most certainly feel at loss for incentive. This was my reaction, however, when I came back from the last war and resumed work at my old "studio," Western Europe.

Since the beginning of newsreels, I have been covering world events with a motion picture camera, and since the inception of Paramount News, I have been roaming the continent supplying footage for our "make-up days" back in New York. From the start, I specialized as a roaming newsreel reporter—due partly to my own desire and partly because I was already equipped with international experience and a number of foreign languages. Paramount sent me all over the globe, of course, but the most interesting happenings occurred in Europe. The continent became my special "stage." Its dictators and its kings, its generals and its politicians, all became my "actors," and its capitals and colorful country-sides my picturesque stage settings.

When World War II broke out, I covered the Polish campaign and afterwards was sent to South America on a "good neighbor" film assignment. In the spring of 1944, I joined our armies in Italy. Working my way through France and Germany, I had reached Czechoslovakia by V.E. day.

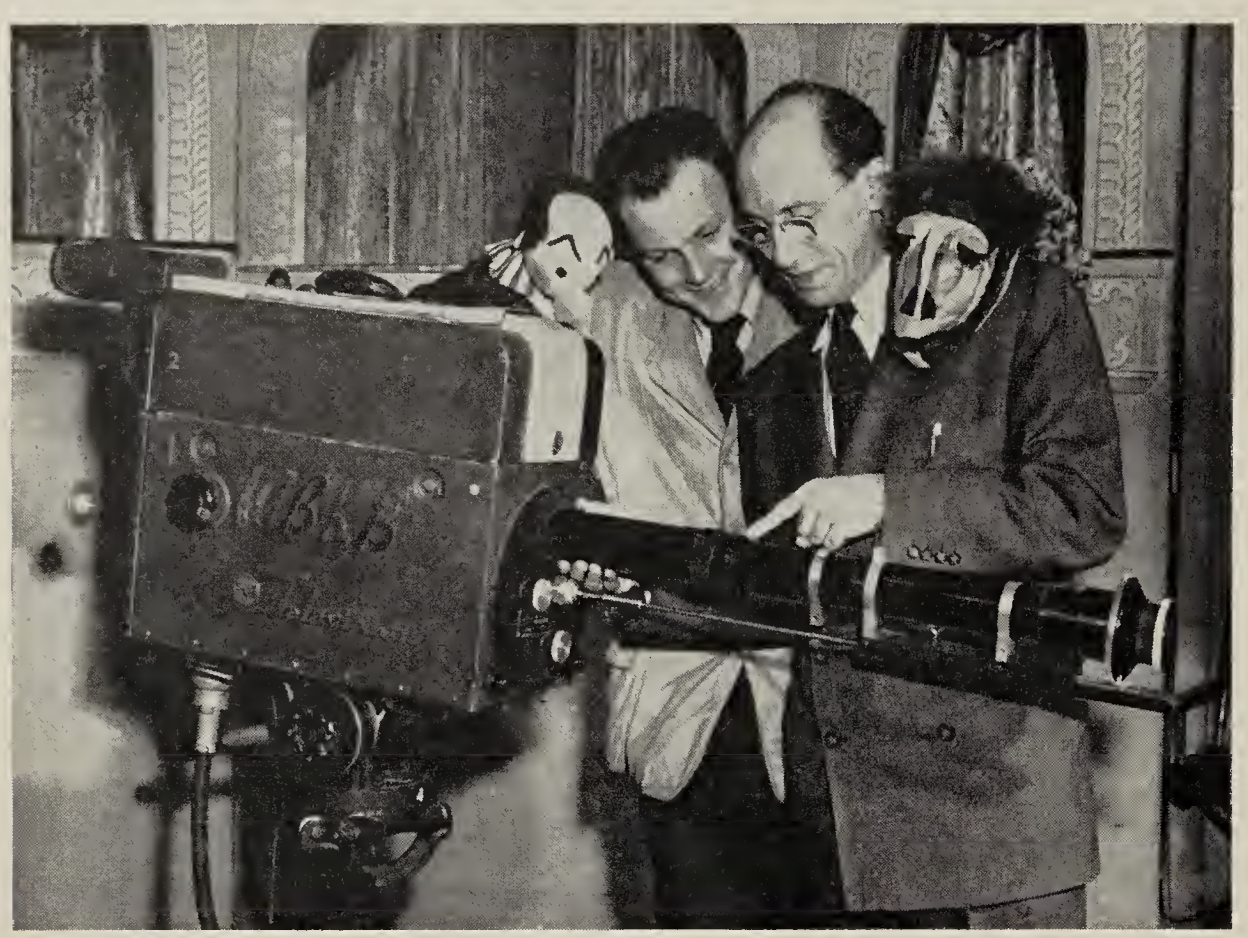
Now no longer a war correspondent, Paramount assigned Frankfurt-Maine or Berlin as my base of operations, and from there I again began to roam around the European stage. That many of my old stage settings

(Continued on Page 213)

How Zoomar Aids TV Photography

Vari-focal lens permits entire show to be photographed with one camera to gain consistency in image quality.

By VICTOR FORD



DR. FRANK G. BACK, (right) explains to Burr Tillstrom, producer and star of "Kukla, Fran and Ollie," the one-camera television Zoomar show, how the lens' 26 optical elements work to produce zoom effects. Zoomar is only lens used on camera and is operated by a single knob at rear, below camera viewfinder.

WHEN Dr. Frank G. Back devloped the Zoomar lens for cinematography, he had not considered the advantages it also would offer television cameramen, mainly because television photography was virtually still in its infancy. But now the Zoomar is assuming importance as the TV cameraman's most important accessory. It does the work of four lenses and in some instances dispenses with the need for a second camera in covering studio programs.

The Zoomar's application to television in one respect is even simpler than when it is adapted to cinematography, because there is not the need for a special zooming viewfinder. With the TV camera, what the lens sees the cameraman also sees in exact image in the camera's electronic viewfinder.

The lens' name, Zoomar, suggests its function: that of zooming from close distrances to far, and vice versa. It is a varifocal lens in that by a simple mechanical adjustment the focal length of the lens may be varied within certain limits. With the Zoomar lens made for use on movie cameras, which is slightly different in mechanical details from the type used in television, this change is made by moving a lever attached to the lens barrel. Changing the focal length thus, an apparent change in the proximity of the viewer of the film or of the television screen takes place. In other words, if the change is from the minimum focal length to the maximum, it appears to the viewer that he has started way back from his subject and has been carried up close for a better view, without the customary cuts from long to medium to closeups shots which is general practice in movie making. All this, of course, without the camera's physical position being altered.

There are twenty-six elements in the Zoomar lens compared to the average of perhaps six or eight in the more complicated of ordinary camera lenses of fixed focal length. In the early stages of the lens' development, this immediately posed the problem of light absorption and reflection, for at an air-glass surface, as much as 10% of the light may be lost in reflection. With 26 lenses in the Zoomar, this meant 52 air-glass surfaces —52 times 10%. The answer, of course, was coating, which reduced reflection to approximately 1%.

The Zoomar has two interchangeable front lenses. One for wide angle and the other, a tele-front lens, for closeup work. There is also a short range adaptor for use in ultra-closeup work, but this attachment has little application in the field of TV photography.

In the model for television, shown in the photo, the zooming range with the wide angle front lens is from 2 inches to 9 inches. Lens speed is from f/5.6 to f/22 when used from 2 to 12 inches, and about f/8 in the region of 12 to 18 inches. The difference in field coverage in any one continuous shot is nine inches or a three-to-one diameter change. The difference in field coverage can be greatly increased to 36 times by the use of a compound shot using both front lenses.

Main difference between the Zoomar television lens and the one for movie work is in the mechanical method by which the inside barrel is moved. In the movie type it is done by means of a lever arrangement underneath the barrel. In the television type, barrel movement is accomplished by means of a rod that extends beneath the full length of lens, through center of the turret and camera and back to the turret shift handle in back of the camera. This method was adopted since size of the TV camera prohibts the cameraman handling the lens

One of the main advantages of the Zoomar is its psychological effect. It can give a complete picture and a detailed picture and yet not have the disconcerting choppiness of cutting back and forth from one camera to another with different lenses on each. The video viewer has the tendency to lose either the trend of thought or become lost in the relative positions of the camera and the subject being viewed when this cutting, or camera switching, is done.

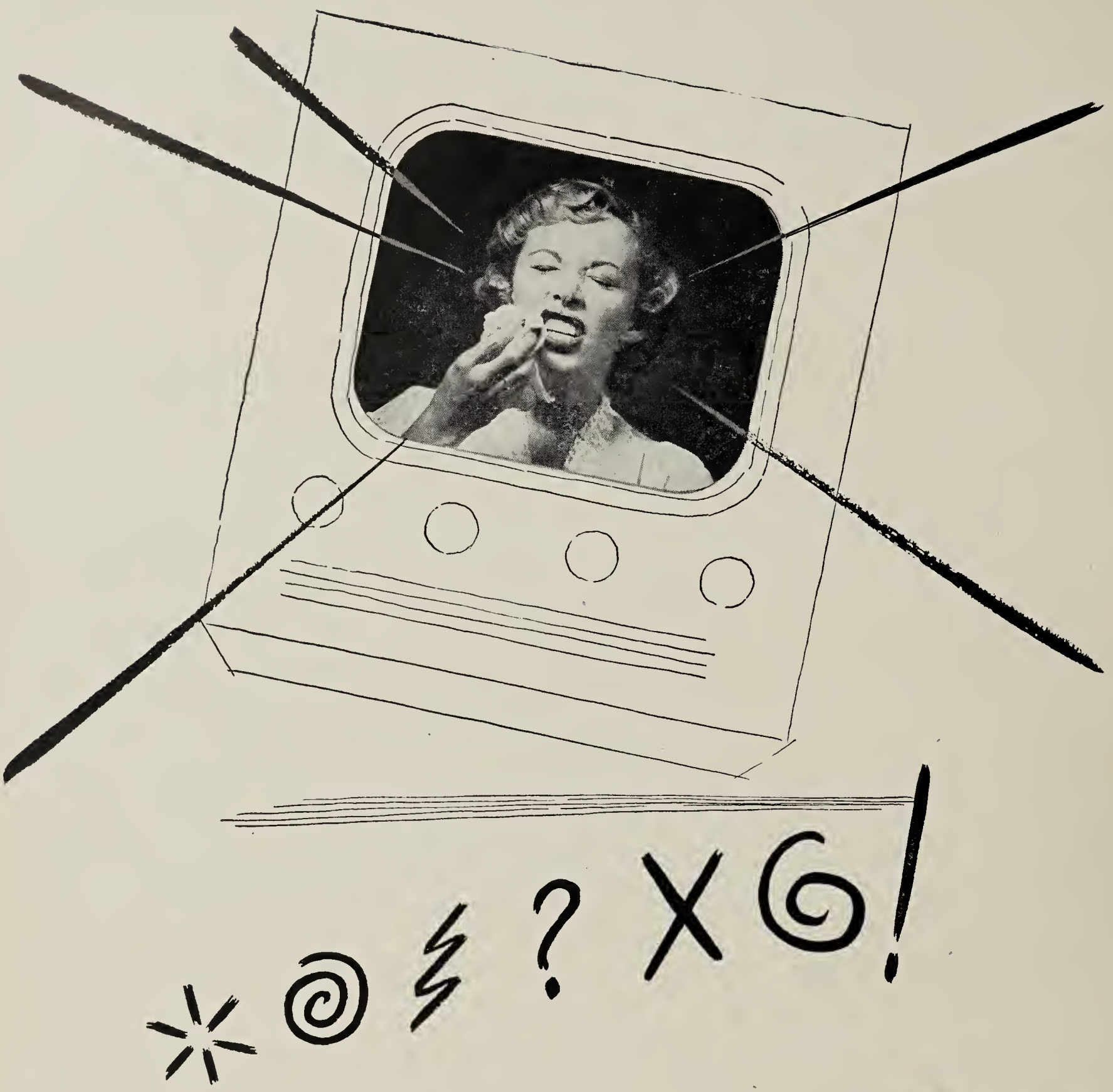
It remained for Harry Birch, chief cameraman of WBKB, Chicago, to discover still another and far more important advantage—the ability to overcome the difference in the response between two different TV camera tubes. Birch is using the Zoomar exclusively in photographing the "Kukla, Fran and Ollie" show.

"This show would not be the show that it is," Birch said, "without the aid of the Zoomar. Up until last fall, at which

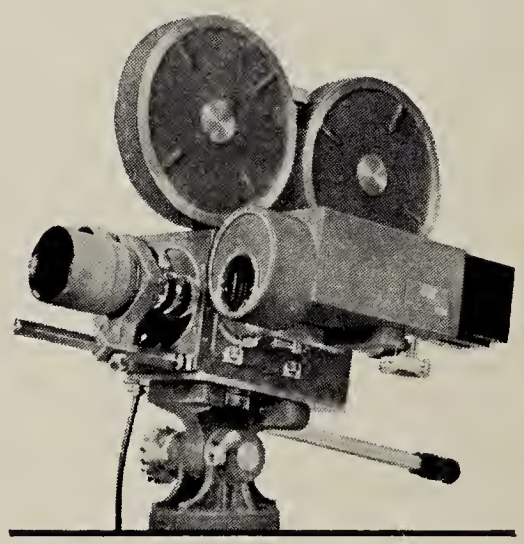
(Continued on Page 214)

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You've seen this, or something else "unfortunate," on too many live TV shows. It simply couldn't happen if the show were on 16-mm film.



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Pushbutton Cinematography

Television Employs It To Record Programs For Re-broadcast

By FREDERICK FOSTER

A NEW TYPE of motion picture photography came into existence with the advent of television. It is called kinescope or kinephoto photography. It is unique in that it calls for no cameraman, as we know cameramen today, and it isn't necessary to adjust lights and take exposure readings each time before starting to shoot. Actually, this movie making may be justly termed "pushbutton photography" because it operates that simple.

Kinescope photography or "kinescoping" has to do with photographing—usually on 16mm. film—television programs directly off the tube for re-broadcast. The camera is in fixed position, requiring little or no more attention than loading and unloading the film. The lens stop and focus are pre-set. All the operator has to do to start shooting is press a button that starts the camera's motors turning.

Equipment designed by RCA to record television images on motion picture film was given its first public showing at the National Association of Broadcasters' convention in Chicago recently.

Already in operation in a number of the nation's key network stations, this equipment is filming hundreds of thousands of feet of TV program material each week for delayed broadcast, for documentary, historical, legal, and advertising purposes, for syndication to remotely located network stations, and for re-broadcast because of difference in time zones.

The system consists of RCA Kinephoto Equipment (Type TMP-20B it says in their catalog), which is basically a projection-type kinescope with its associated video amplifier, deflection circuits, and power supplies; and a suitable 16mm. sound motion picture camera. The kinescope and camera are mounted on a double cabinet rack which houses the amplifiers, power supplies, control panel, and oscilloscope.

The equipment utilizes standard RMA video signals supplied directly to the equipment from the switching system in the television studio. The signal is fed to a video amplifier, where it is amplified and separted into a signal for synchronizing the scanning raster of the kinescope with that of the television pickup camera, and a modulating signal which is amplified and used to control the kinescope beam which forms the visual image.

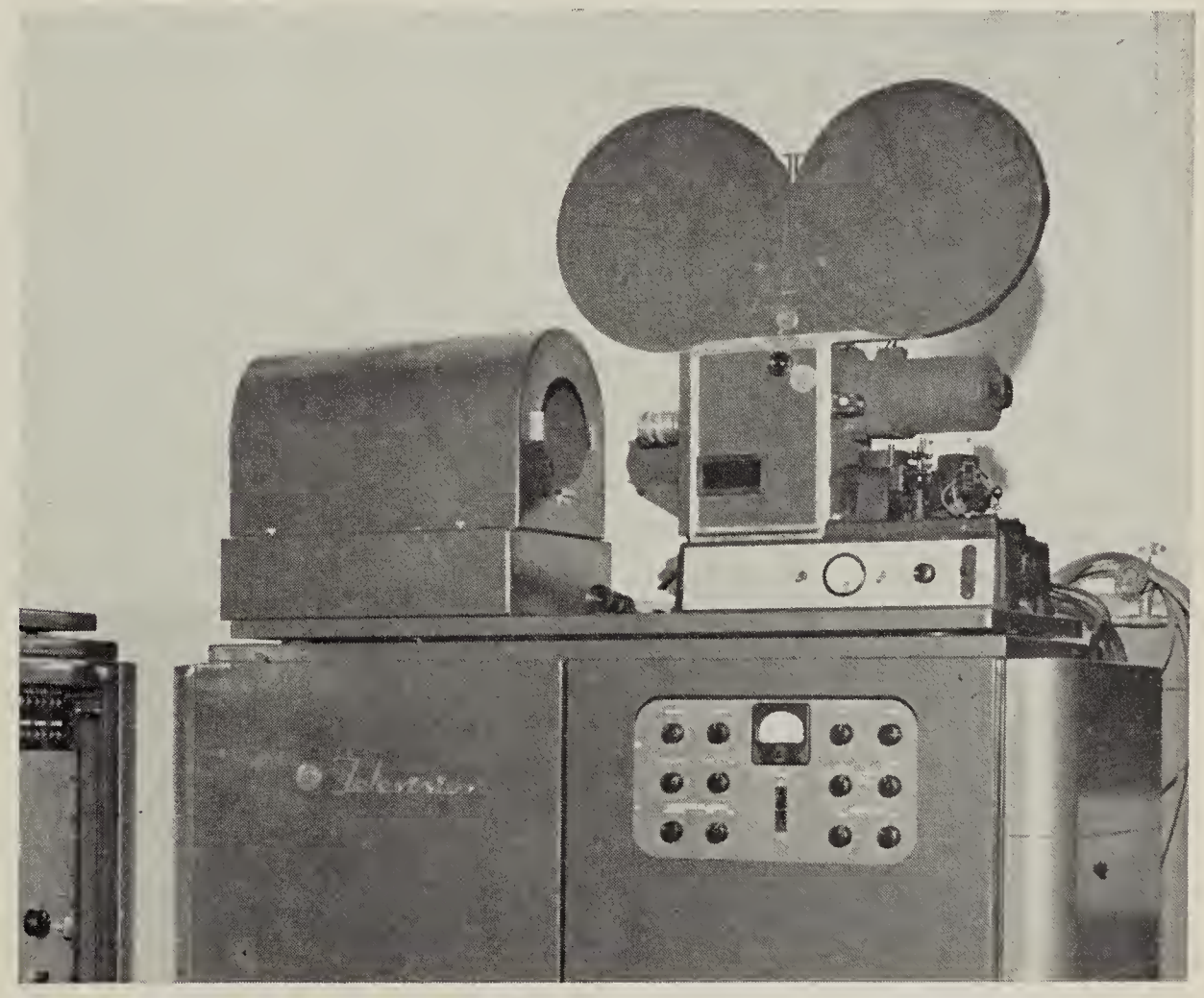
The kinescope, RCA Type 5WJ11, is a special 5-inch flat-face aluminized projection-type cathode ray tube having a short persistence blue phosphor screen of high actinic value, which makes possible the use of high-resolution, low-cost positive-type film stock. The equipment has been designed and manufactured to the high quality standards set by the broadcast industry.

In addition to the TMP-20B Kinephoto Equipment, the system requires a 16mm. motion picture recording camera, such as the Model TK-75-B camera developed by RCA especially for use in television. This camera compensates for the timing differences between the television system, which has a scanning frequency of 30 complete frames or 60 interlaced fields per second, and the conventional motion picture system, which exposes film at the rate of 24 frames per second. Since 1/12 of a second is the time interval for five interlaced television fields and for two frames of film, compensation can be made by exposing each film frame for the duration of two television fields and advancing the film during an interval representing one television field out of five.

Because of differences in phasing, each film frame may represent parts of as many as three television fields, but a precision timing shutter and pull-down mechanism provides for precise matching between the cutoff point in one field and the point of pickup in the next.

The camera exposure time in terms of the television system must be accurate to less than one half of a scanning line, or roughly one part in 30,000. It must be timed to expose exactly the proper number of picture lines for each frame, or 525 lines, no more or less, or an effect known as "banding" will take place on

(Continued on Page 218)



IN FIXED position, with focus and exposure pre-set, camera at right photographs on 16mm. film television programs from face of kinescope tube within housing at left. This is latest RCA kinescoping equipment as used in NBC's television studio in Hollywood, and many other TV studios throughout U. S.

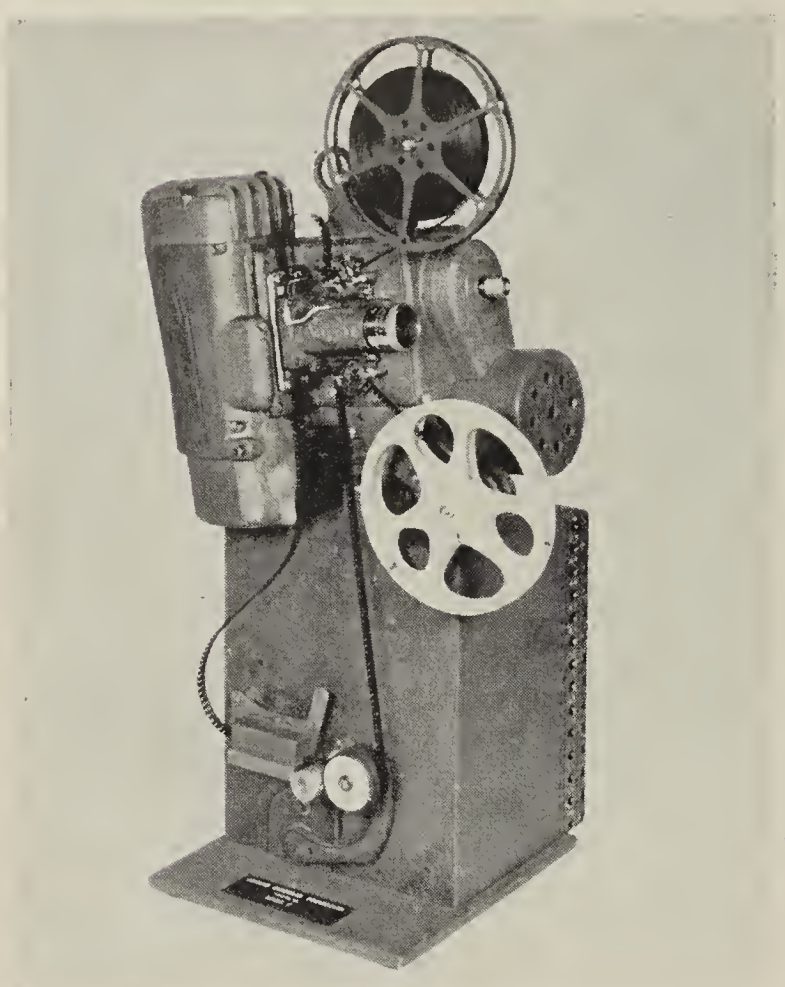


FIG. 1—Side view of a silent 8mm. projector which has been converted into a complete unit for both recording and playback of synchronized sound recorded magnetically on edge of the film.

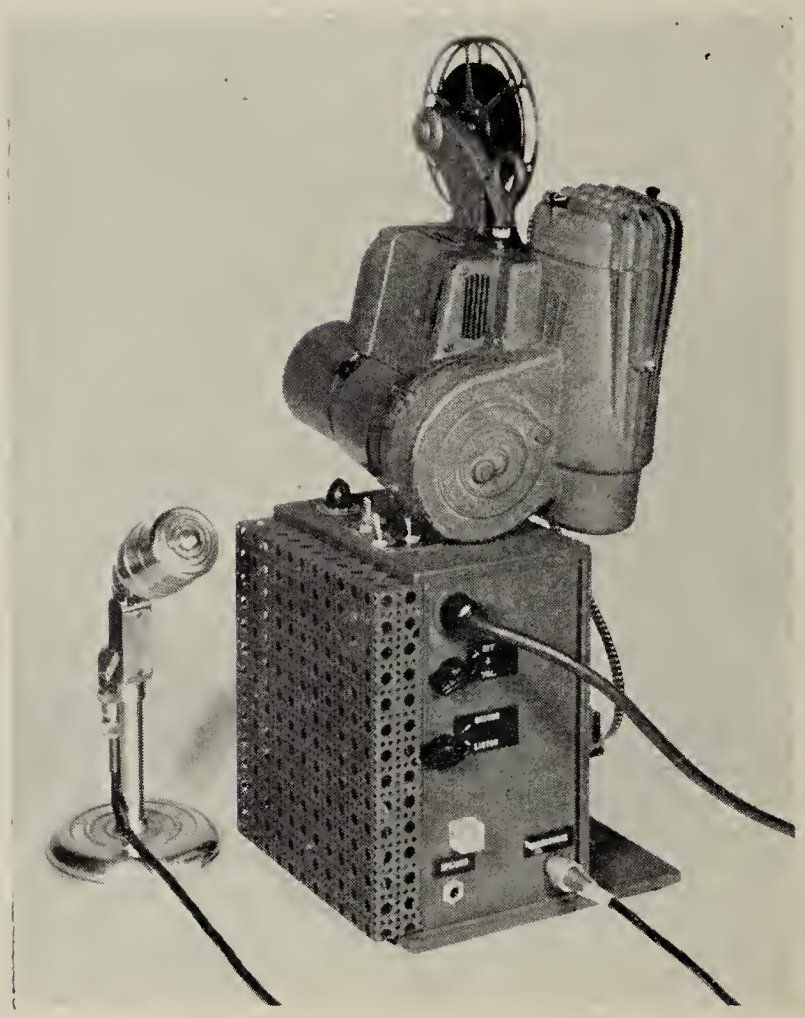


FIG. 2—Rear view of same projector, showing controls. The commercial jobs will be considerably refined in appearance and more compact. Not shown is the speaker unit which is placed near the screen.

On The Way—Magnetic Sound For 8mm!

Dr. A. H. Leedy, Director of Armour Research Foundation, reveals developments that promise early appearance of magnetic sound projectors for 8mm. home movies.

FOUR MAJOR manufacturers of cine cameras and projectors will shortly announce their new magnetic sound 8mm. film projectors. Since a laboratory model of a converted silent projector was developed by the Armour Research Foundation of Chicago, four equipment manufacturers here and one abroad have obtained licenses to use the foundation patents, which means that very soon, now, movie amateurs will be able to realize a long promised adjunct to their home movies—synchronized magnetic sound.

Of course, all developments have been kept under wraps and much of the progress has been confidential development and tooling up for production, which is expected to start before the end of the year. Therefore, no specific details are available at this time on any of the new projectors. However, when finally they are available, it will mean that, not only will the movie amateur be able to screen 8mm. movies in sound, but will be able to record sound magnetically on his own movies films for showing on these same machines. The application of the magnetic sound medium—a fine metallic emulsion—will in all probability be a commercial service provided by film companies: they will put a magnetic sound track on exposed or unexposed 8mm. film for a fee. Also, it is likely that rolls and magazines of 8mm. films will shortly thereafter become available with the magnetic flux for the sound track already applied to the edge of the film.

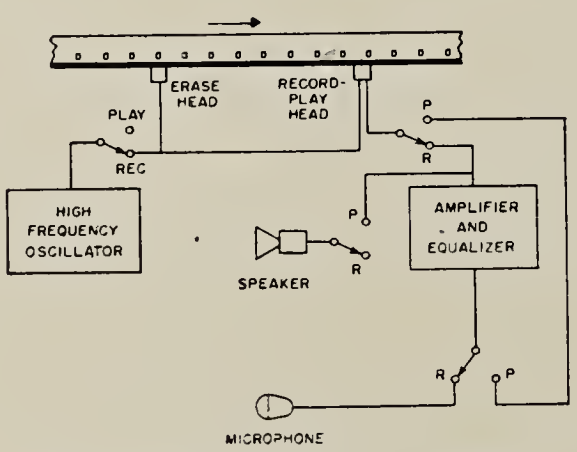


FIG. 3—Diagram of an 8mm. magnetic sound projector circuit.

The Armour Research Foundation of the Illinois Institute of Technology has pioneered in the development of magnetic sound in this country, both on wire and tape, and later on film. Very early in their research they discovered, mainly through the tremendous interest in magnetic sound evidenced by hundreds of amateur movie makers who wrote them, that one of the most logical applications of magnetic sound was in the field of home movies where, up until this time,

(Continued on Page 219)

Again available! *Cine-Kodak Special II Camera*

Now fitted with superb new Kodak Cine Ektar *f*/1.4 Lens



Professional movie effects with amateur ease

This is the one 16mm. movie camera with which you can create most of the unusual screen effects ordinarily produced by special and expensive laboratory treatment. The controls are built into the camera itself!

Fades, dissolves, mask effects, double and multiple exposures, montages, animation, slow motion, and speeded motion —all can be achieved from the camera position. The reflex finder permits precise focusing and framing, requires no rack-over, eliminates parallax, does away with the need for titlers, allows really big close-ups. The wind-back shaft rules out the need for backing up film in a darkroom. The single-frame shaft even permits time exposures for dark scenes ordinarily beyond the reach of the fastest lens.

Imagination—only—limits its range

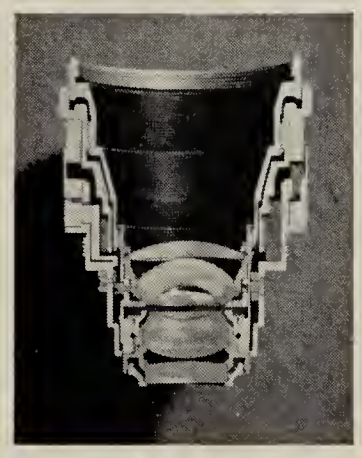
Name your effect. With the "Special II," you can have it!

Animated titles . . . maps . . . diagrams . . . "self-assembling" machines. Tremendously speeded action or time-lapse studies. All are easy with the "Special II."

Comedy situations, wherein big men vanish behind small trees . . . shiny new cars are transformed into battered flivvers . . . a screen character greets himself in mid-screen, is "beside himself" when and where you desire. The old and the new, the rich and the poor, the fast and the slow—all can be on the screen at the same time when the movie is made with the "Special II."

Title exposures against moving backgrounds . . . ghost effects wherein the background shows through the subject . . . fades against an unchanged background. These effects, and scores more—all under perfect finger-tip control—are simplicity itself with this camera.

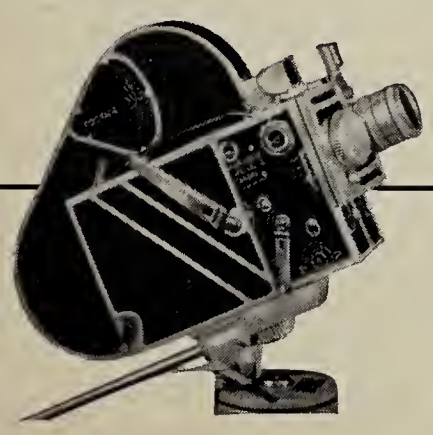
Small wonder Cine-Kodak Special II Camera is the first, and last, choice of the serious worker . . . the advanced amateur. Good news that production is once again in step with demand. Your Kodak dealer will be glad to accept your order for a Cine-Kodak Special II Camera—now!



Finest lens ever made far 16mm. matian picture cameras. The Kodak Cine Ektar 25-mm. *f*/1.4 Lens meets the highest standards of definitian and edge-to-edge sharpness. Aided by the unique aptical qualities of Kadak rare-element glasses, Lumenized glass-air surfaces, blackened lens rims, beveled flanges, and a new precisian maunting of all elements, it pravides superb image quality, excellent contrast and calor purity, and unmatched flatness of field in addition to its extreme speed. And with the complete line of accessory Kadak Cine Ektar Lenses in a wide range af focal lengths also now available, still further scape and variety can be given ta yaur film shaws. Ask your dealer far the free Kadak baoklet, *Kadak Cine Ektar Lenses*, which describes them in full detail.

Eastman Kodak Company

Rochester 4, N. Y.



The basic model of the Cine-Kadak Special II Camera is equipped with a 100-faat capacity film chamber and the 25mm. *f*/1.4 Kadak Cine Ektar Lens. It may be purchased with a 200-faat capacity film chamber and the same lens—shawn at left—or with either chamber and a 25mm. *f*/1.9 Kadak Cine Ektar Lens. In ane af these four farms, this fine camera will meet yaur every film-making requirement.

"Kodak" is a trade-mark

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Cutting The Commercial Film

Since subject matter of the average commercial film is often unexciting, the film editor must accept the challenge of making the film move along and hold interest.

By CHARLES LORING

TO THE uninitiated, the expression "cutting a film" simply means getting rid of the scenes or parts of scenes that you don't want to appear in the finished feature. The implication is that a motion picture is created by the process of elimination, and that after the unwanted footage ends up on the cutting room floor, what is left will automatically fall into an acceptable visual pattern suitable for showing to an audience.

This is only partially true. While it is granted that the preliminary step is to cull out the unwanted footage, the real process of cutting or editing depends upon correctly assembling the scenes that you have decided should appear in the finished product. In cutting away the deadwood you are merely clearing the decks for a phase of production that is highly creative and constructive, and indeed upon which the whole meaning of the finished film may depend.

Each separate motion picture scene has a certain limited meaning, but it is only a very small part of a much greater whole. The individual scene takes on its real meaning in the overall pattern depending upon the scenes immediately preceding and following it. Sometimes a direct visual connection exists between two or more scenes placed together—but even scenes which have no visual relationship take on a unique and interrelated meaning when cut together. Thus, if you show a bird flying and then cut to a close-up of a man looking skyward, the audience naturally assumes that the man is looking at the bird.

In the commercial film, as in any other type of motion picture, skillful cutting is of the utmost importance. Many such subjects gain their force and meaning, not from the scenes themselves which may be very ordinary), but from the imaginative way in which those scenes are cut and edited. Since the subject matter of the average commercial film is all too often somewhat less than exciting, the film editor must accept the challenge of making the film move along so that audience interest does not lag.



THE EDITOR runs the film through a viewer or Moviola, marking with grease pencil the frames where he feels cuts can be made to best advantage. Using these marked frames as a guide, he then cuts and deletes unwanted frames or footage. Here Leonard Shafitz watches screen of his Moviola preview machine as he edits an industrial film for Reynolds Metals Company.

In the commercial film, cutting should actually begin when the script is written. The writer, the director, and a technical advisor representing the client should agree as to which are the most important phases of the story, and then make sure that these elements are pointed up through the use of sufficient close-ups. If this is indicated clearly in the script, the editor's job is greatly simplified, since he can use that script as a bluprint and know exactly where to cut each scene.

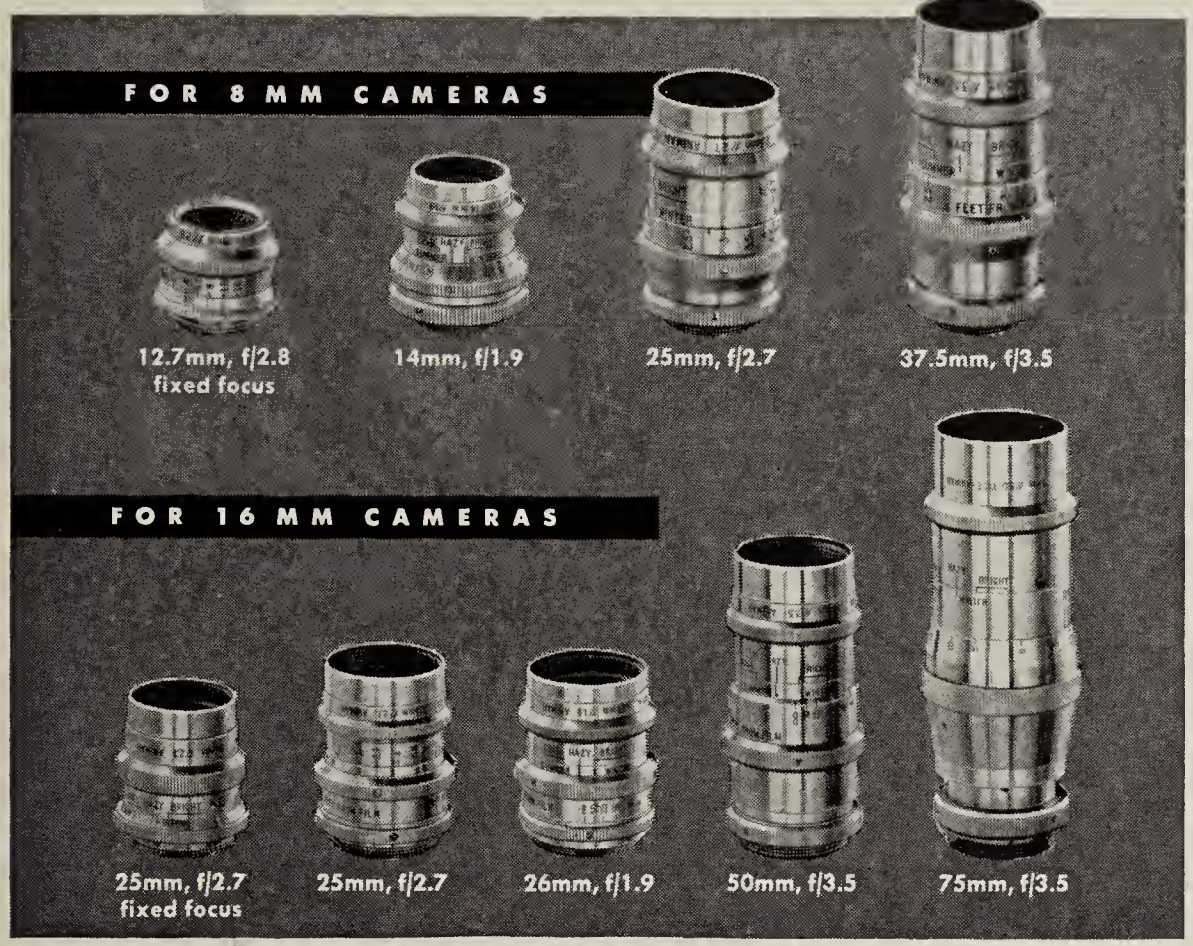
In the how-to-do-it or "nuts and bolts" type of educational-commercial film, the important aim is to convey information or the details of a process in such a way that the full meaning is clearly understood by the audience. The editor must avoid cutting the action so fast that important details are slighted or left out entirely. If this occurs, even though the action may seem to have a nice active pace, the film will fail in its prime purpose.

On the other hand, the institutional film (the main object of which is to create good will for the client) can benefit greatly from a fast style of cutting which tends to add dramatic pace to the unfolding of the story. Cut the action rapidly enough that the audience will want to stay with the subject and so that interest will not bog down.

Continuity is born in the script, advanced through proper direction of the action, and smoothly resolved in the final editing. Thus, correct cutting alone will not insure smooth continuity, and the responsibility of the flow of the film narrative should not be thrown upon this one phase of production. An imaginative editor, however, can find elements of visual continuity between totally unrelated scenes and cut them together in such a way as to lead smoothly from one to another. For example, a turning wagon

(Continued on Page 215)

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8mm and 16mm

ANIMAR LENSES

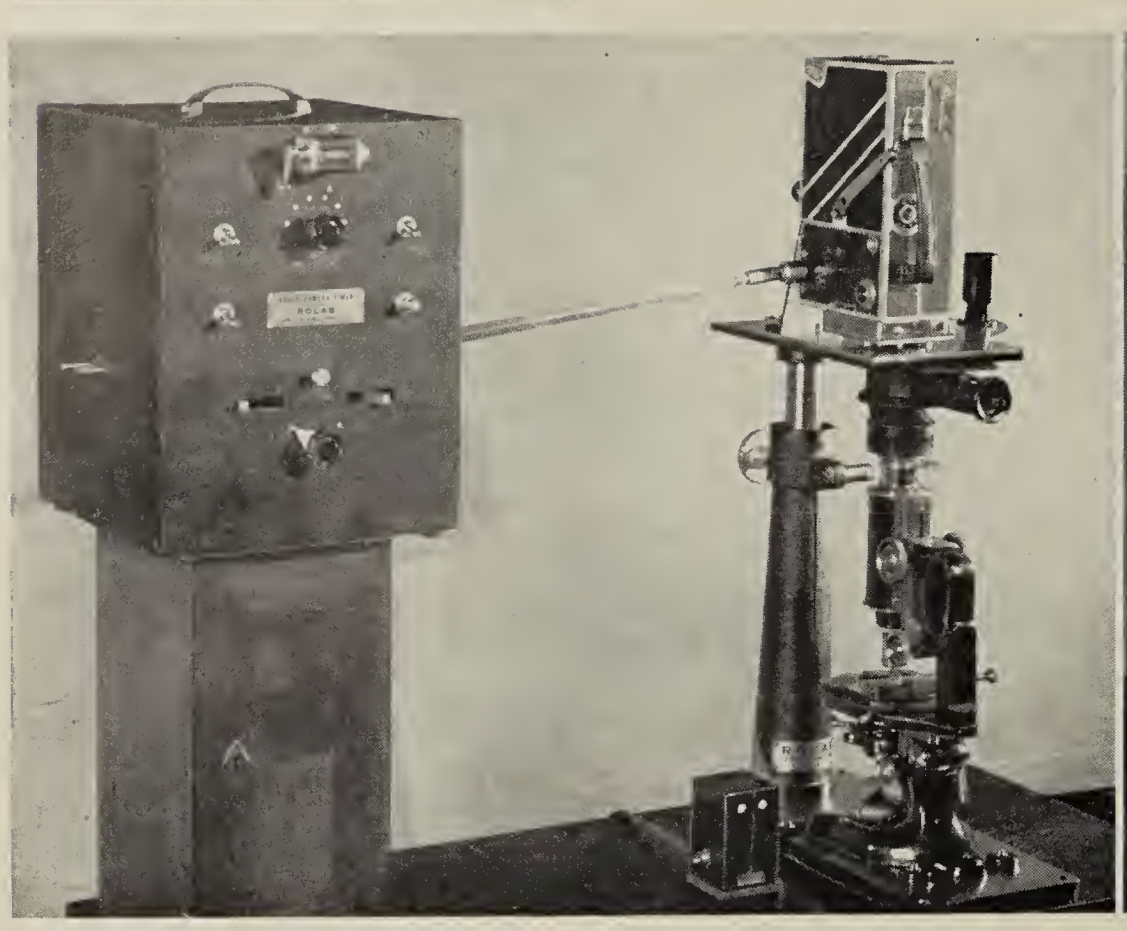


FIG. 1 — Showing Roger camera timer in use operating a Cine Kodak Special 16mm. camera in recording a microscopic study in time-lapse sequence. The timer may be regulated to expose pictures ranging from 1 to 8 per minute or 1 to 24 per hour.

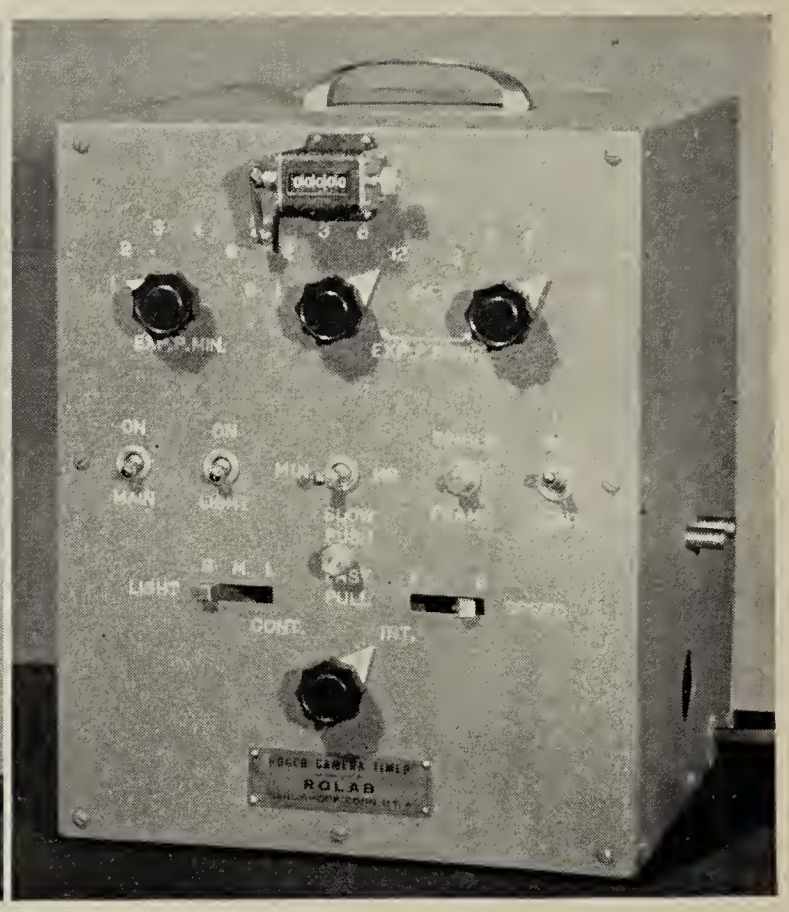


FIG. 2 — On control panel are frame counter, dials for regulating exposure interval, light switches and speed control. Timer operates continuously or intermittently.

Camera Timer For Time-lapse Cinematography

By JOHN FORBES

TIME-LAPSE cinematography has become increasingly important in the production of industrial and scientific 16mm. films. At the Rockefeller Institute for Medical Research it was used by Dr. Alexis Carrel for making micro-cinema studies of living cells and tissues and blood, and of bacteria. The U. S. Department of Agriculture has been using time-lapse photography in its motion picture department for about fifteen years, for recording plant and animal life.

Camera timers, developed by the Rolab Photo Science Laboratories at Sandy Hook, Connecticut, are being used extensively to record on 16mm. film the growth of various plants, such as mushrooms and other fungi; opening of flowers; budding of yeast and starting from a single cell; growth of bacterial colonies and single bacteria; capillary action of dyed liquids in the grain of wood; and the formation of ice crystals and their peneration into pores of wood to prove adhesion, as legal evidence.

By time-lapse or stop-motion cinematography is meant motion pictures of comparatively slow actions that appear to be speeded up when projected upon the screen. We may presume that film records of actions taken at any lower frequency than normal projection speed would belong to this category because they are more or less speeded up when projected. For practical reasons we may say, however, that useful time-lapse work ranges between one frame per second and one frame per hour.

The filming of motion pictures of this type is, of course, very simple, aside from some experience in determining the proper time-intervals between exposures. Provided the illumination is constant, the camera needs only to be operated at the proper speed by hand or motor. Many types of automatic driving mechanisms, more or less complicated, have been constructed—mostly home made affairs, serving only limited purposes—and because of the increasing use of time-lapse work in recent years, Rolab Photo Science Laboratories have developed an efficient camera timer for this work which they are producing commercially.

The Roger timer, which is illustrated above, is the result of Rolab's more than 30 years practical experience in time-lapse cinematography as applied in a scientific and industrial research laboratory, where accuracy and excellence of results are of prime inportance and where the attention of the operator should be focused upon the object itself rather than upon manipulation of the camera. Obviously such a timer must be compact and portable, automatic, easy to operate, and foolproof.

The Roger camera timer consists of a number of integrated units assembled in a light carrying case that may be mounted on a tripod or other suitable stand set up next to the camera, as shown in Figs. 1 and 2 above. The timer is connected with the camera by means of a telescoping shaft fitted with two universal joints, or by a flexible shaft. As may be seen in Fig. 1, shaft extensions or connections are on either side of the timer so that the instrument panel always faces the operator at all times, whether the camera is horizontal, as for straight photography, or vertical for closeup or microscopic work, as shown in the photo.

The timer apparatus consists of the following parts or features: (1) minute timer, (2) hour timer, (3) camera motor, (4) frame (exposure) counter, (5) relay mechanism for intermittent and continuous operation, (6) the automatic light control mechanism, and (7) instrument panel.

The minute timing device consists

mainly of a synchronous motor, a contact disk assembly, and a commutator switch. It can be set to operate camera to expose 1, 2, 3, 4, 6, and 8 pictures per minute.

The hour device is of similar construction, and includes synchronous motor, contact disk assembly, and commutator switch for 1, 2, 3, 6, 12, and 24 pictures per hour. It has, in addition, a contact mechanism that insures uniformly exposed pictures.

The motor operating the camera is of the silent precision type, with speed governor and gear-shift assembly for two speeds. The frame-counter registers single exposures and can be re-set at any time.

The mechanism for intermittent and continuous operation plays an important part in the timer performance, and the intermittent operation may be considered a most valuable feature. It has been found that the majority of home-built time-lapse devices, operating continually, have a definite drawback because any change of time-interval usually requires lengthy readjustment of gears, pulleys, lights and camera objective, besides the making of exposure tests.

With the Roger camera timer a change of frequency may be effected by simply turning a dial on the instrument panel. This does not change the exposure time previously found correct, and was made possible by the intermittent operation of camera and light source. Between exposures, and after having turned one revolution, the motor stops completely at the moment the camera shutter is closed. A cycle begins with an impulse from the minute or the hour timing device, which activates the relay and starts the motor with intermittent mechanism. The camera lights are switched on and off in synchronism with the camera shutter, and the motor stops again at the end of the revolution.

A single lever on the panel may be turned to disengage the intermittent mechanism so that the camera will operate continuously with two adjustable speeds for frequencies over 8 pictures per minute.

Another use for the Roger timer, of course, is in the production of animated movies and animated plastilina models, sequences of which are finding increasing use in modern industrial and educational 16mm. films.

CINE CAMERA FRAME SPEEDS

By shooting at frame speeds other than the standard 16 f.p.s., a number of interesting effects can be made. For slow motion on the screen, use 32 or 64 f.p.s.; for rapid action, drop to 8 f.p.s. Allow one full stop more exposure for 32 f.p.s., two stops for 64. When dropping down to 8 f.p.s., *close* lens diaphragm one full stop.

"PROFESSIONAL JUNIOR" CAMERA EQUIPMENT

Interchangeable - Removable Head Tripods

FRICTION TYPE

Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with motor and 400′ magazine; and all 16mm. hand-held cameras. Head is interchangeable with the Gear Drive head. Both types fit "Professional Junior" standard tripod base, "Hi-Hat" and "Baby" all-metal tripod base.



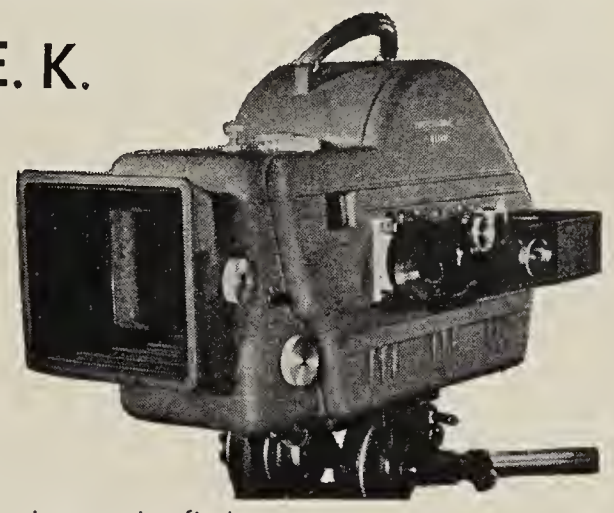
GEAR DRIVE

The head, made of Dow Metal magnesium, weighs but 5½ lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap-on metal cranks control pan and tilt action from both sides. Worm-driven gears are Gov't spec. bronze.



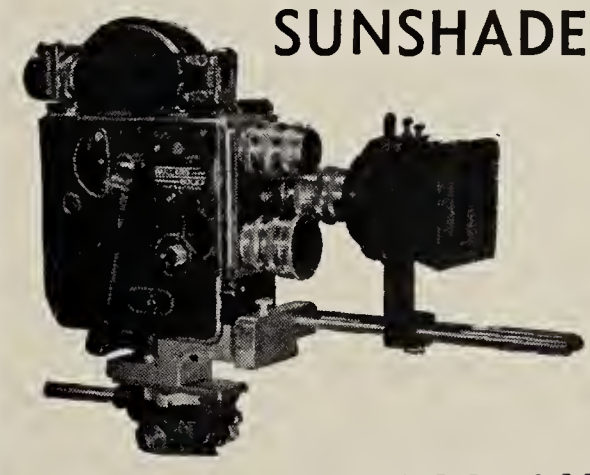
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This Blimp constructed of Dow Metal magnesium, is thoroughly insulated to afford absolute silent operation. Exclusive features: Follow focus mechanism permits change of lens focus while camera is operating in blimp. Blimp takes synchronous motor drive which couples to camera. A dovetail bracket is provided to mount an erect image viewfinder.

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For use with Bolex and Cine Special 16mm. cameras. Holds two 2″ sq. glass filters and a round 2½″ Pola Screen with handle which can be rotated for polarization. Covers all lenses from 15mm. to 6″ telephoto and eliminates need of various filters. Precision made of the finest materials. Compact, simple to assemble and dismount. May be permanently affixed to camera or quickly detached.

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NEWSREELER'S DILEMMA

(Continued from Page 201)

were now in ruins was depressing to me but not too great a handicap. Ruins can sometimes be colorful and are always dramatic. But my actors were gone. Gone was the incredulous Goering, the pompous Mussolini, the sinister Hitler, the strutting Ciano, the gentlemanly Horthy, the oily Beck, vain Carol and all the others. Some had died a natural death, some had been shot, hanged or exiled—gone were they all from the European scene and my camera viewfinder.

Their places had been taken by a bleak row of insignificant and often temporary personalities, among whom foreign minister Bevin is perhaps the most spectacular. I don't intend to discuss what the world has gained or lost by these changes, but I want to stress that for me, as a newsreel cameraman, it has posed a difficult problem.

Added to this setback in performance personnel is the iron curtain which Stalin has drawn across the European stage, cutting postwar newsreel coverage possibilities to half that of prewar. Because all open news work is forbidden behind the iron curtain, I have no chance to cover the Baltic States, Poland, Czechoslovakia, Hungary, Bulgaria, Roumania or Albania. Once, very long ago, when Lenin died in 1924, I filmed that funeral story in Moscow in spite of strong Soviet restrictions. I even managed to get the film out of the country, which resulted in my arrest by Soviet secret police. After six weeks in prison and endless cross-questioning, I was sentenced to death. Diplomatic pressure was brought to bear and this sentence was reduced to a decree of "eternal expulsion from the Soviet territories." So with this experience behind me, I can readily say there is no newsreel story in Eastern Europe that would make it worthwhile for me to cross into Russian territory with my camera.

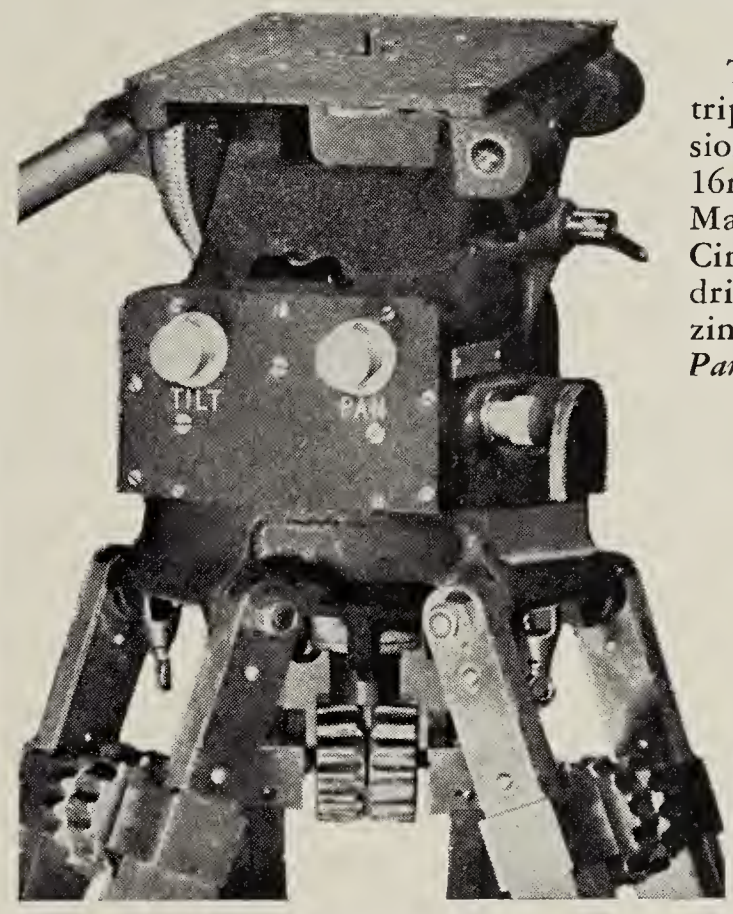
Perhaps the most urgent problem facing the foreign newsreel cameraman since the war is what I may term the problem of "the plot." Like every Hollywood production, every newsreel story must have a plot, too. Before the war, the world was full of angles for news plots. There were a number of power centers dispersed around the globe, each with its own ideologic, economic, cultural and military interests. With the fantastic, highly explosive war plot still fresh in the peoples' memory, postwar events seem tame by comparison.

Only one story has created a really worldwide sensation during the past three years and that is the story of the Berlin Airlift. That Russia tried to starve two and a half million people into submission

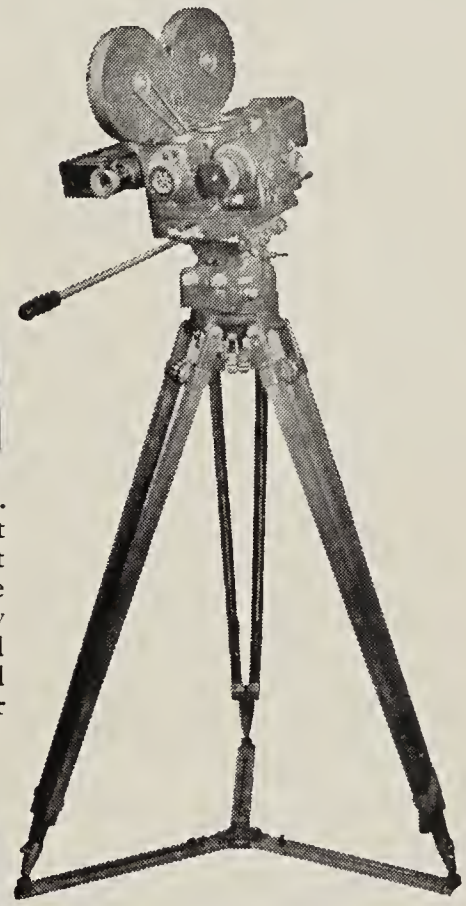
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•

USE A FRESHLY LAUNDERED flour sack for holding your unedited film strips. Fit opening of sack with a wire frame and attach to your editing table by means of short wooden batten. Use numbered spring clothespins around edge of frame to hold the lead ends of each film strip.

•

IF RANGE OF TILTING DEVICE ON your home movie projector is limited, a handy gadget that supplies additional height may be made from a block of wood, roughly 2″ by 4″ by 6″, with three steps cut in the top surface, affording three additional levels for your projector.

•

ODD SIZE FILTERS, providing they are larger in diameter than the camera lens, can be used in an emergency by mounting them in front of lens with scotch tape.

•

A LARGE BOTTLE OR GALLON jug makes an excellent developing drum for short lengths of film. Wind film around bottle and secure ends with scotch tape. Ideal for developing short title strips or tinting or toning.

•

WHEN YOUR PROJECTOR pilot light burns out, tie a small pen-size flashlight to a spring clothespin and clamp it to projector.

•

CUTTING PORTHOLES in living room walls enable you to set up projector in another room, thereby eliminating the projector noise and giving your films professional presentation. To conceal these portholes, when not showing movies, mount a framed picture over them. Hinging picture frame to wall from the bottom and attaching a length of picture wire to top of frame, will enable you to raise and lower the picture at will from other side of the wall.

•

IF YOU LABEL YOUR FILMS by printing the title in ink on the white leader strip, you can make the lettering permanent by applying a coat of clear nail polish over it.

and that these people were saved by the gallantry and resourcefulness of British and American airmen, made news of magnitude equalling that of many wartime events. But as such news is invariably shortlived and because by now the airlift has become a routine and almost commonplace operation, it will only become news again when and if the blockade is lifted. (Mr. Dored Wrote this prior to the recent dubious lifting of the blockade—ED.)

Out of the titanic struggle of this last war, two giants emerged: America and Soviet Russia—overshadowing all other powers. As long as the Russia giant defies truth and therefore bans open news work, we newsreel photographers must content ourselves with "western" news. But in so doing, it seems to me that all our newsreels have ventured farther and farther away from *news* and now manily consist of what I would term *entertainment*: sports, fashions, beauty contests, etc. Only occasionally does a newsreel today contain a real news item, of which a very small percentage is foreign. In a way I think our newsreels have remained isolationists while our country's general policy has changed to embrace more than half of the world.

Behind this phenomenon may be the always questionable economy of the newsreels. Perhaps, also, they are influenced by the competition between newsreels and the growth of television. As a very seasoned newsreel cameraman, I have been through quite a number of "economy drives" in my time, and when I consider how news expenses have been reduced since the early days—as when I would charter a plane to fly a parcel of news film half way around the world to beat a competitor newsreel—and compare conditions with today where I must carefully compose a cable to keep the wordage down, I still am not convinced that economy needs can be the reason for the trend of the newsreel today. As to television, I know still less about it than I know of economy. Therefore newsreel managers, editors and treasurers will probably smile at my naive proposal that we leave race events, sports matches and all the other purely entertainment events to television and let us concentrate on recording *news* which no other agency is as well equipped by experience and organization to do.

I do not underrate the difficulties confronting us, which I have partly described from a cameraman's point of view already. But as the sensations of war and victory recede, I think news will come out of its "slump" and will again be evaluated for its own merits. I also believe that as Europe recovers and the Atlantic brotherhood gets going, new plot centers will develop within the borders of America and Russia. With the American policy now embracing all the free world, does not the interest of Americans also turn towards contemporary world news and history?

Or am I just an old news-hound whose hunting instincts make me blind and deaf to the strange trends of this postwar era?

HOW ZOOMAR AIDS TV PHOTOGRAPHY

(Continued from Page 202)

time we switched all our studio cameras over to R.C.A. Image-Orthicons, we were doing this show with two Iconoscopes. We put two Image-Orthicons on the "Kukla, Fran and Ollie" show and added more gray hairs to the present ones, in trying to find two tubes that were properly matched."

This is where the Zoomar saved the day, he said. Using the two Image-Orthicons gave them the result of different looking characters every time they switched from one camera to another. Birch suggested using the Zoomar and doing the entire show with one camera and the Zoomar lens. The second camera could then be used on the commercials. His suggestion was followed and the result is that the puppets and Fran are always of the same image quality throughout the show. The show no longer suffers from the image differences that followed when cuts were made between two cameras.

"We also found our zoom shots much improved," continued Birch, "enabling us to do away with a dolly and a dolly pusher. We feel the show is 'tops' from a photographic and technical standpoint and that the Zoomar has added more interest to it."

Nor is the Zoomar's use confined to the "Kukla, Fran and Ollie" show at WBKB. According to Birch, the lens is used on baseball, football, parades and other remote telecasts. They have used it in the studio on their super-dramatic shows where, according to Birch, it has given results the studio could not obtain in any other way. "In fact," he said, "WBKB was the first television studio to use the Zoomar on a dramatic show."

As the use of this radically new lens is learned by and through experience, it is certain to become one of the most important accessories for the television camera. Today it is being used by more than 25 TV stations for studio productions and remotes.

CUTTING THE COMMERCIAL FILM

(Continued from Page 208)

wheel can be cut to dissolve to a close-up of a whirling fly-wheel on a modern machine, thus providing a quick and smooth transition from old to new industry.

The actual physical routine of cutting is familiar to everyone whose job it is to edit commercial features. For the benefit of those who are just entering this phase of the field, we shall review briefly the various steps of creative cutting.

First, the raw footage is screened and the best take of each scene is selected and noted on a scene list. Secondly, these good takes are culled out and assembled in sequence, preferably on a film rack or pigeon-hole board. The extra takes on each scene are very carefully catalogued as to subject matter and filed away in cans to form a stock library for use in future productions.

Next, the "slates" are cut off of the scenes in the first sequence (one by one) and they are assembled by splicing in the order indicated in the script. None of the action is cut off any of the scenes at this point; therefore, there will be quite a bit of overlapping action in the various angles of the same sequence. The footage is then run on a projector (we assume work-print is being used) and the editor views the sequence several times until he can "feel" the flow of the action and select the spots in the overlapping action where cuts can be made most smoothly.

The editor then runs the sequence through a viewer, marking with grease pencil the frames where he feels cuts can be made to best advantage. Using these marked frames as his guide, he then cuts out the excess overlap footage and splices the scenes together in a rough cut of the sequence. It is best to cut the footage too long than too short at this particular stage.

Once again the rough cut sequence is projected and closely checked for smoothness and pace. The editor checks the narration for that particular sequence and, working with the writer, juggles picture and words so that the two directly complement each other. Sometimes there is a certain amount of information that must arbitrarily be included in the narration of a certain sequence and the picture must be padded to fit. The more satisfactory method to be used wherever possible, however, is for the picture to be cut so that it flows smoothly, and then tailor the narration to match.

When the editor and the director are satisfied with the cutting of the first sequence, it is set aside and the second sequence is tackled. So on down to the final sequence. It is by far the best technique to cut a picture one sequence



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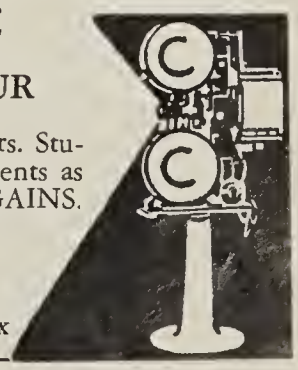


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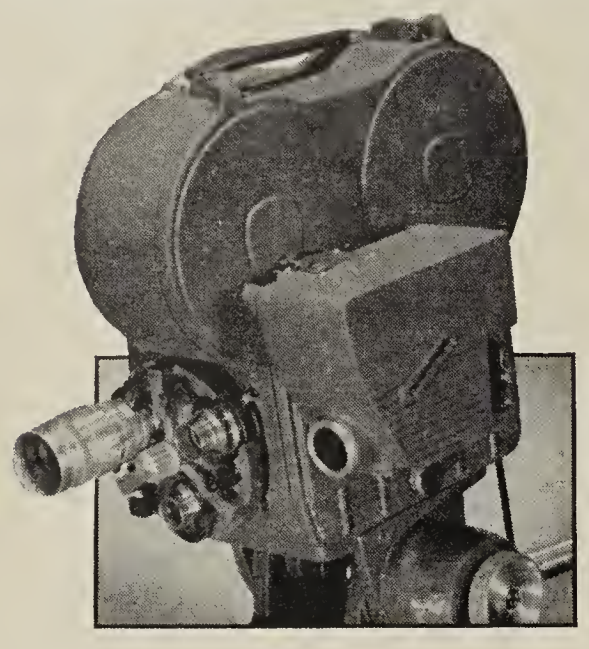
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at a time, and preferably in order. Otherwise, if the editor attempts to cut the whole picture at once, he becomes swamped by it and is not able to pay attention to the little details that add up to precision cutting.

When all of the sequences are approved for cutting, they are spliced together in order and the entire picture is run for the editor, the director and the client's representatives. Some changes will undoubtedly have to be made when the picture is thus viewed as an entity, but such adjustments are usually minor if the individual sequences have been carefully edited.

When the cut work-print has been approved, the picture is ready for sound dubbing, and as soon as the sound track has been checked, the original color or black and white negative is matched to the cut work print and optical effects are set up preparatory to making the composite print.

The importance of creative cutting in the production of commercial pictures cannot be over-estimated, since it is the editing which accounts for the ultimate presentation to the audience of the efforts of the writer, the director, the cameraman, and (most important) the client.

CHAMPION

(Continued from Page 197)

the entire picture was rehearsed scene for scene on a vacant sound stage, with no props other than those necessary to complement the action. On hand, beside the cast, director, producer, script writer, the editor, grips, etc., was Frank Planer and his gaffer, Tom Ouellette. Together they planned the lighting of sets—planning which called for elimination of scaffolding where possible, the barest minimum of lighting equipment, but with a reserve of lighting units to cover any emergency.

Planer, using his detached camera viewfinder, planned his camera angles and setups, always in consultation with director Mark Robson, of course. "Thus, when I was ready to shoot the picture," Planer said, "I had a very real conception of the complete production. I had the lighting and the photography fully planned for every scene in advance. The delays and the lost motion that often follow where the cameraman must take each scene as he comes to it, was thus avoided. The production was placed on a strict timetable basis, and once the camera started to roll, shooting proceeded according to schedule."

Contributing much to the smooth running of the production, according to Planer, was the fact that the advance planning, conferences, and rehearsal of the picture had given everyone concerned a complete visualization of the production. The final rehearsal action was the same as enacted in the actual shooting later. The lighting and camera angle which Planer had established weeks earlier, say, for scene 232, dovetailed with the action and script instructions when the time came to shoot the scene. Only in very rare instances were any last minute changes made in the script. Earlier, as problems were encountered—and every opportunity was given for them to be recognized and dealt with during the numerous rehearsals—they were settled then and there, and the script changed accordingly and followed to the letter when shooting began.

The terrific impact of "Champion's" story demanded a mood which was established early in the picture by Planer's well calculated lighting and camera angles. From the very beginning, Planer built steadily for the climax—the big fight sequence. "I had decided that, above all else, I would put everything I had into the final sequence, which is the climactic point of the story," he said. The grim aspects of the story which prevail throughout much of the picture called for appropriate lighting to sustain mood, and Planer met it successfully with a fine degree of low-key lighting, first in the opening scenes of the two men scuffling with the hoodlums in the box car, then the hunt by one for the other in the darkness after they have jumped from the train, and later in the interior of the training quarters, in the fight arena, and finally in the big championship bout scenes.

Planer accomplished mood lighting and at the same time saved considerable money for the producer by employing photoflood lamps in a great many scenes, thus eliminating the bulky, and more costly illumination of big arc lamps and inkys. Photofloods, replacing the usual light globes in the practical lamps dotting the ceiling of the corridors and the dressing rooms of the fight stadium, gave the right effect of natural lighting. Photofloods supplied overhead lighting for the fight arena. And interiors at the little roadside inn in Santa Monica were lit for the most part with photofloods.

In the early part of the story, much of the motivating action takes place within the roadside inn, where Douglas and Kennedy have found work — and Ruth Roman. Planer chose the location in preference to a studio-built set for several

reasons; first, it was completely natural; it afforded a view of the passing traffic through the windows which, to be reproduced on a studio set would have involved costly background plates. It also posed a problem in camera movement, for the little "two-by-four" eatery would not permit use of either tripod or small dolly. Planer made many of the shots with camera mounted on a stack of pop bottle cases; on the counter, or on a chair.

Planer encountered trouble, too, in the light coming through the windows directly facing the camera. When first they scouted the location, it was a mild sunny day. But on the day they chose to shoot at this location, a brush fire sprung up suddenly in the hills back of the inn, flooding the sky with billowing white smoke. This increased the brilliance of the light coming through the windows, a problem which Planer met by placing blue cellophane over the window panes. But even this expedient was not without contributing problems. The heat of the sun caused the cellophane to shrink and curl, and the wind rustled the cellophane, causing highlights to flash back toward the camera lens. Had Planer the time, had he not a rigid timetable to follow, he would have met the problem by replacing the clear glass in the windows with blue. Instead, fiine piano wire was stretched across each window pane to keep the cellophane flat.

The moonlit beach scenes are a tribute to Planer's camera artistry. Shooting these scenes in daylight, he used a combination of filters, which he developed himself, to achieve the excellent moonlight illusion. Only the closeups of Douglas and the girl on the beach were shot on the sound stage, and only because dialogue requirements made the exterior location impractical. But so carefully are these lit and filtered that they match the heavily filtered exterior long shots perfectly.

Planer's camera takes a virile and startlingly realistic turn in the fight scenes, which are supposedly staged in a number of big fight stadiums throughout the country. Actually they were all shot in the same stadium. Planer changed the visual aspect each time, as the story locale required, by altering his lighting, by painting the ropes and posts white for one sequence, and darker for another; or by shooting one sequence from a higher or lower camera angle.

The picture is remarkable for the excellent spectator viewpoint of the fight scenes, lending further to the naturalness of the action and contributing to the mood of the story which Planer early decided was one of the most important factors in building the picture to its smashing climax. Planer's Mitchell camera was mounted on a special "Rosie" dolly which permitted it to be used close to the floor. It permitted sliding the cam-

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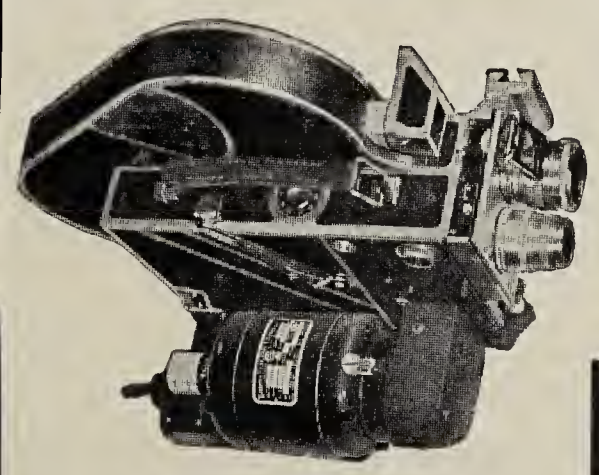
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era over the canvas of the ring to follow the fighters, and back again, to pan from side to side, as required—with the same smoothness and percision had camera been mounted on the conventional studio dolly or tripod.

Meanwhile, Perry Finnerman, Planer's second cameraman, "covered" him with a special Cunningham-Eyemo combat camera. Perched on a baggage-handler's two-wheel hand truck, Finnerman was wheeled around the ring as he trained his camera on the battered leatherpushers slugging away at each other in a mythical prizefight that had all the earmarks of the real thing. Indeed, in many instances it was real. Douglas and each of his opponents had agreed, for the sake of realism, to really fight instead of resorting to the usual leather tossing that passes for boxing in so many fight pictures. Douglas went into rigid training before the fight sequences were filmed and received professional coaching from veteran ring champ, Ace Hudkins. And when the picture was finished, Douglas knew how it really feels to be a prizefighter.

This same sincerity of purpose marked Frank Planer's work in the production, too. After he had read the script, Planer agreed to direct the photography if he could also have a hand in planning the production, which, happily, coincided with producer Kramer's wishes. Good pictures do not come the way of cameramen very often—pictures with Academy Award winning possibilities—but when one does come along, a picture that offers real opportunity to enhance and motivate the story through intelligent lighting and camera work, it poses the sort of challenge every cameraman is eager to accept.

"Champion" is—or was at the beginning—a picture without star names. To put it across, it was necessary to give it production values and real "socko" that would enable it to sell on merit alone. And that is exactly what happened. As sincere as Kirk Douglas' punching is Frank Planer's calculated mood photography; Mark Robson's smart direction and the frank portrayal's of every member of the cast. Planer may well rest on his laurels, while enjoying his European sabbatical, and contemplate the heights to which his stock may rise as a result of his excellent photography of this picture.

PUSHBUTTON CINEMATOGRAPHY

(Continued from Page 205)

the exposed film. This exposure is controlled by a mechanical shutter.

The camera and shutter are driven by synchronous motors which are synchronized with the entire television system. The shutter drive is isolated from the main camera, and a 3600-rpm synchronous motor drives the shutter at the necessary 1440 revolutions per minute through a set of precision gears. Another motor, synchronized with this, drives the film transport and intermittent mechanism. This arrangement insures rotational accuracy and freedom from inter-action of the camera drive and shutter drive mechanisms.

The density of film recording depends not only on the length of exposure but on the brightness of the cathode-ray picture tube. Since the exposure time is fixed, the highlight brightness of the picture is varied by means of the video gain control; the kinescope bias control will set the black level or point of visual extinction of the return lines. The beam current of the picture tube is measured by a microammeter on the control panel of the monitor; since there is a direct relationship between this current and the output of the tube, the measurement of the beam current provides a good index to the brightness of the picture.

Normally, the positive kinescope images are filmed on standard stock, producing negative film images which can be used for rebroadcast by reversing the video phase in the TV camera. The negative is then available to produce as many positive prints as desired. For applications where quick processing and projection is required, such as in theatres, a polarity switch makes it possible to adjust the kinescope to produce negative images. Such images can be photographed and processed as direct film positives for immediate projection. RCA has found that with special processing equipment, it is possible to project the finished pictures on the motion picture screen within 40 seconds after they are filmed. Using this technique, theatres could take pictures "off the air," rush them through processing, and use standard film projectors to show them on the screen as newsreels.

The 16mm. film has been chosen initially for television recording because of the importance of costs of film stock and film processing, together with the safety problems involved. RCA engineers have found that 16mm. fine grain films with suitable processing can produce excellent picture quality, and since the costs involved are only about one-third as much as in the case of 35mm. film, the use of 16mm. film is felt well justified. When it is realized that it takes 1200 feet of film to record a half-hour performance, cost of film and developing is recognized

as an important factor.

The motion picture camera can be equipped with RCA sound recording equipment to place the sound track and picture on the same film, or the sound signals may be fed to a separate sound recorder which permits editing, re-recording, and dubbing.

MAGNETIC SOUND

(Continued from Page 206)

movie amateurs had attempted to satisfy their desire for sound through use of sound on discs and record playing turntables.

The culmination of the Foundation's efforts to perfect a method of application of magnetic sound to 8mm. movies is told by Dr. H. A. Leedy, Director, Armour Research Foundation, in an article in a recent issue of the Foundation's publication *Frontier,* part of which is reprinted here:

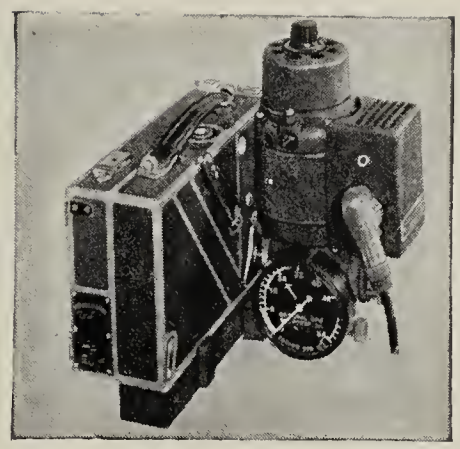
"The possibility of recording sound directly on 8mm. motion picture film has always been intriguing to motion picture engineers and to others interested in the field of sound recording. Attempts in the past to record sound on 8mm. film have proved unsatisfactory primarily because of the small space available for the sound track and because of the very low film speed—approximately 2.7 in. per second.

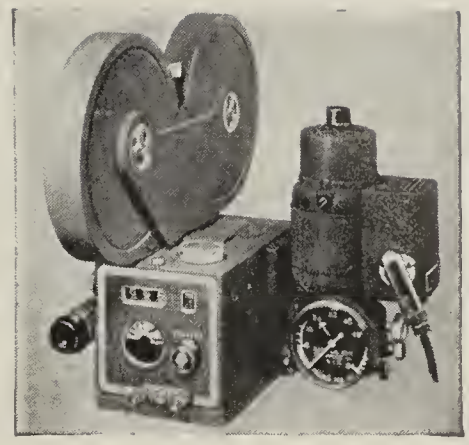
"The development and improvement of recording heads and magnetic powder has made possible for the first time the satisfactory recording of sound on 8mm. film. In 35mm. sound film the optical track is 0.100 in. wide and is well removed from the sprocket holes and edge of the film. This is, of course, necessary for optical recording since uneven development in the neighborhood of the sprocket holes and the edge of the film results in a distortion of the optical track.

"A magnetic track can be used instead of the optical track on 35mm. film. With improved magnetic powders, it is possible to obtain high-quality magnetic records on 35mm. film. Recent experiments have shown that at 24 frames per second it is easily possible to obtain a reproduced signal having a signal-to-noise ratio in excess of 45 db and a frequency response which is flat within plus or minus from 50 to 16,000 cycles per second.

"For 16mm. sound film the sprocket holes have been removed from one edge of the film to make space for the optical track. This optical track can be replaced by a magnetic track, or, on 16mm. silent film, the magnetic track can be placed between the sprocket holes and the edge of the film. In either case, at the same film speed, the results are equally satisfactory.

"For 8mm. silent film, the sprocket





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holes already have been removed from one side of the film. If an optical sound track is to be used on this film it can be placed either on the unsprocketed side reducing the limited area available for the picture or it can be placed between the sprocket holes and the edge of the film, in which case troubles are encountered due to uneven development.

"Thus, neither of these locations is satisfactory for an optical track. However, a magnetic track 0.030 inches wide, can be placed on the sprocketed side. Very satisfactory results for the recording of speech have been obtained with a track in this position.

"Fig. 3 shows a typical block diagram of an 8mm. magnetic sound projector circuit. With the four-gang switch in the record position, as shown in the diagram, the high frequency oscillator current is applied to the erase head, thereby removing any signal which has been previously recorded on the magnetic track. The output from the microphone, after being amplified and equalized, is applied to the record-play head along with the high frequency bias current. With the four-gang switch in the play position, the high frequency oscillator is removed from the circuit, and the output from the record-play head is sent through the amplifier and equalizer to the loudspeaker.

"Several 8mm. silent projectors have been converted for use with magnetic tracks. More recently, a silent 8mm. projector has been converted and built into a complete unit for both recording and playback. Fig. 1 shows a side view of this projector. A contact type governor has been added to the series motor of this projector giving essentially a constant speed drive at 18 frames per second —2.7 inches per second. This projector is mounted on a base containing the erase-record-play head, an oil-damped fly wheel, the bias and erase oscillator and the audio amplifier.

"The film path, Fig 1, is from the supply wheel over the first drive sprocket, through the film gate, thence, after a long loop, through the erase-record-play head, over the fly wheel roller, under an idler pulley (which is pressed against the fly wheel roller by the tension in the film), and finally over the second sprocket to the take-up reel A back view of this projector is shown in Fig 2. the overall frequency response of this projector is flat within plus or minus 5 db for 120 to 3,500 cycles per second. If desired, an improved low-frequency response can easily be obtained by increasing the bass equalization

"With such a projector, recording can be made easily by the average amateur and can be played back immediately without the necessity of any intermediate processing. If the recording is unsatisfactory, it can readily be erased and a new recording made immediately. The recordings thus made may be played over and over again without appreciable loss of fidelity. It is possible to place magnetic tracks on existing 8mm. films; thus sound titles can be added to present 8mm. film libraries.

"It should be pointed out that it is extremely difficult to obtain uniform film motion at this low film speed of 2.7 inches per second. It is particularly difficult to obtain this by converting existing silent equipment. Much more satisfactory results could, of course, be obtained by designing an entirely new projector having uniform film speed in mind from the beginning. Such projectors, having satisfactory film speed control, would, of course, be suitable for recording music for amateur use. However, with the projector shown, very satisfactory recordings of speech have been made, and such a unit should prove a boon to the amateur who is interested in placing sound titles and other speech sounds on 8mm. film."

THE FOUNTAINHEAD

(Continued from Page 201)

employed them to complete advantage, without at any time going overboard for "arty" effects. But he went beyond the tailor-made dimensions of the interior sets in carrying the modern style of composition over into even the outdoor natural locales. For example, a huge rock quarry serves as one of the important settings for the action. Had this location been photographed in a conventional manner it would have been just another rock quarry. But to the lens of cinematographer Burks it became a ruggedly modern, almost stylized, mounting for dramatic action. The angular jutting shelves of rock were used as cubistic art forms to frame and balance the composition of the scenes. On paper, this sort of symbolism may sound cryptic and a bit farfetched—but on the screen the visual parallels are most forceful and direct.

In designing the sets for "The Fountainhead," art director Carrere was guided by the author's own descriptions of buildings and planned structures, some of which were described in the novel as "a mass of planes." He used cantilever design for some of the buildings, and produced some sharply moderne, almost futuristic, designs—most of which, he maintains, are practical enough to actually be put into use.

Over 300 architectural drawings were prepared for the film, and most of them followed the ultra-modern style for which the hero fought. Of the 70 separate sets

in the picture, 36 were interiors and 34 were exteriors. The modern settings included the architect's office, his penthouse apartment, the office of the newspaper publisher, and the living room of his "dreamhouse" in the country. All of these settings are characterized by bold but simple lines, plus the use of structural materials of varying textures.

The most spectacular outdoor set is, of course, the stone quarry. Located at Knowles, California, 55 miles from Fresno, it is the largest quarry in California and has been in operation since 1882. It furnished the granite for the City Hall and Hall of Justice in Los Angeles, as well as for many public buildings in other large western cities. The company spent three days shooting on location there, working in temperatures ranging up to 126 degrees.

Models of each set were built in advance and studied by the director of photography in order that he might plan his lighting and camera set-ups far in advance of construction of the actual sets.

To give the sets the desired "plane-against-plane" effect, Carrere had them painted lighter in the foreground than at the back and then flooded them with a great amount of light to provide sharp shadow lines. To further intensify the light and shadow effect, he painted the shadow areas of the set very dark and the highlight areas very light.

Carrere and Burks followed through with this black and white effect in the quarry sequence, also. Here the painters again went to work darkening the shadows for more forceful contrast. The touch of paint gave modeling and depth to the monolithic formations, lending them added force as compositional forms. The one technical nuisance was that caused by the sun moving across the horizon. As the sun moved, the painted shadows had to be washed off and repainted to match the new natural shadow patterns.

"The Fountainhead" owes much of its visual scope to the special effects created by William McGann and his staff. Miniatures, process plates and matte shots are smoothly executed and succeed in producing illusions that are especially realistic. Unusually effective is the collection of trick shots used in final sequence which shows the Wynand Building, "largest structure in the world," under construction.

The process by which the heroine is apparently taken to the top of the 1,400 foot unfinished building to visit her architect husband, required weeks of preparation and involved a nightmare of special effects. Riding to the top on a service elevator, she eventually reaches the point where she is looking down on the Empire State Building. Glancing up she sees the remainder of the building she is ascending, and to make this effect believable, it was

(Continued on Page 225)

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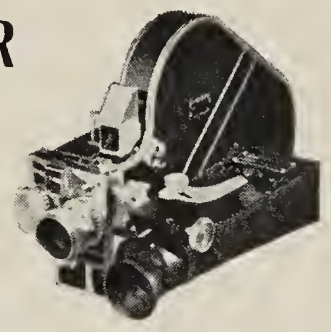


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25 YEARS AGO

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• ERNEST HALLER was shooting "Puppy Love" at the F.B.O. studios which site is now the present RKO-Radio studios on Gower Street

• GIL WARRENTON, having acquired a new Mitchell Camera, was engaged to shoot a new Universal production, "We Are French," under the direction of Rupert Julian.

• VICTOR MILNER and Fred Niblo were celebrating the completion of filming "The Red Lily," Niblo's latest production.

• JIMMY VAN TREES was photographing "Single Wives," an eight-reel First National Production starring Corrine Griffith and with George Archinbaud at the megaphone.

• AL GILKS was seeing Betty Compson daily through his camera viewfinder as he photographed this popular Paramount star in Sam Wood's production titled "The Female."

• ARTHUR EDESON signed with First National to photograph "The Lost World."

• FRED JACKMAN, who was now a successful director, and HOMER SCOTT were engaged by First National to produce important special effects photography for a forthcoming super-production.

• SOL POLITO, drawing upon his full range of glamour tricks, was photographing Priscilla Dean in "The Siren Of Seville" for Hunt Stromberg.

• BOB DORAN finished shooting Will Rogers' last production for Hal Roach and took over the photography of "The Spat Family" series of comedies for Roach.

• NORBERT BRODINE was receiving accolades for his splendid camera work in "The Sea Hawk."

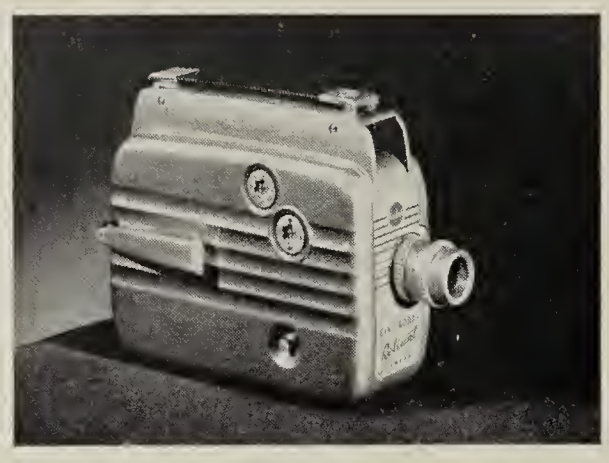
• STEVE NORTON was filming a series of comedy dramas at Universal, under direction of Jack Dawn, which combined live action with clay models.

• CINEMATOGRAPHERS—they were called simply cameramen, then—were buzzing with excitement over the consolidation of three large film producing studios into one, namely, Metro-Goldwyn-Mayer.

• JOHN ARNOLD completed filming "Free Love," the first production made under the new M-G-M merger. It had an all star cast and was directed by Hobart Henley.

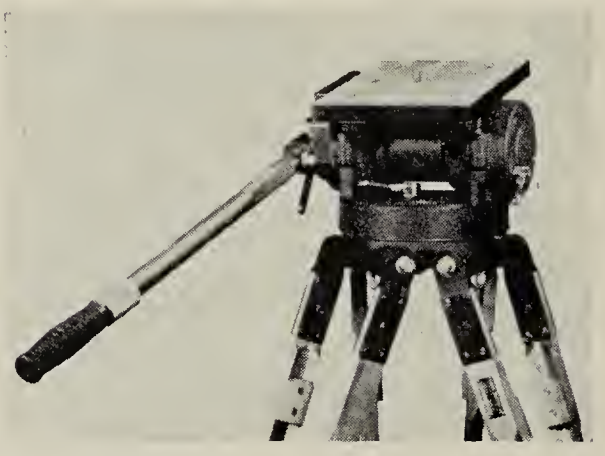
WHAT'S NEW

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New 8mm. Cine Kodak

"Reliant" is name of Eastman Kodak's newest postwar 8mm. roll-loading motion picture camera. Features include sprocketless roll film loading, a pre-focused 13mm. f/2.7 Ektanon lens, and the popular Cine Kodak universal exposure guide. Other features include a full range of taking speeds from 16 to 48 frames per second for slow motion movies; an enclosed eye-level viewfinder equipped with indicators for parallax correction when taking close-ups, and likewise showing the field of acessory telephoto lenses. A locking exposure button and an accurate footage counter complete the equipment. Finish is silver-gray hammered metallic complementing the camera's functional styling. Price of camera is $89.00, including federal tax. Several accessories, including extra lenses are available.



New Tripod

Camera Equipment Company, New York, announces its new balanced "TV Tripod Head," said to meet the strict requirements for a pan-tilt head for television cameras. Head is designed on a new principle of pan and tilt action which discards friction and gyro principles. Tilt action is balanced to assist cameraman in the operation of his camera, reducing to a minimum the effort required to move the camera.

An important safety feature is incorporated in the Balanced "TV" Head, which relieves the operator from additional strain and eliminates the possibility of accidents. If, due to the neglect of the operator, the head is left unlocked with the camera mounted, it cannot fall forward or backward. The pan handle is adjustable for the operators' comfort, with no play betweeu the pan handle mounting bracket and the head. To adjust the position a simple locking lever is released, adjustment made, and lever repositioned. The pan handle is an adjustable telescoping type.

The weight and manufacture of the camera to be used must be known to achieve proper tension and accomplish floating action. A special "TV" size tripod base with reinforced shoes can be supplied for the head which can also be mounted on all standard professional type tripod bases, perambulators, pedestals, and dollies.



Photo Floodlight

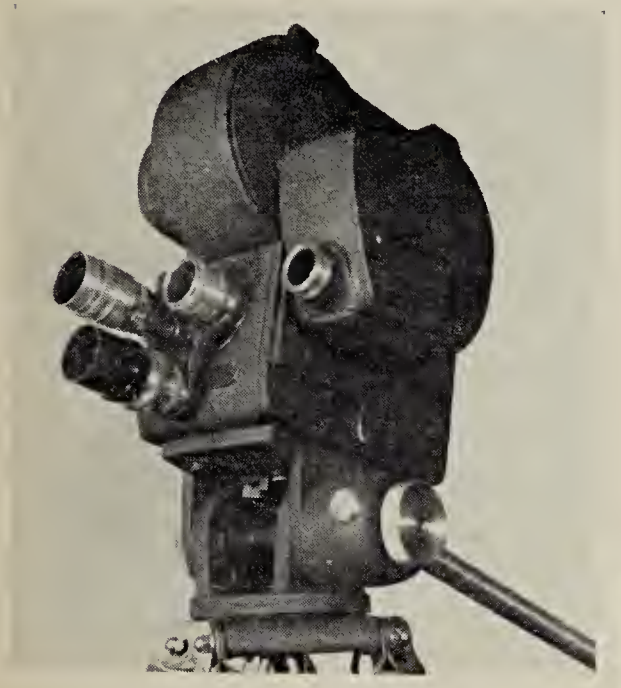
General Electric Company's lamp department at Nela Park, Ohio has developed a small but extremely powerful photographic floodlight designed to provide the intense concentration of light necessary for high-speed motion picture photography. The new lamp, rated at 750 watts, throws a 75,000 footcandle beam of light.

Firm Name Changed

The American Bolex Co., Inc. has changed its name to Director Products Corporation and is now dealing exclusively in the manufacturing and marketing of the Norwood Director Exposure Meter, according to Robert E. Brockway, president.

All sales correspondence should be addresed to 2 West 46th Street, New York 19, N.Y., whereas all meters requiring service should be sent directly to the fac-

tory service department at Director Products Corporation, Stark Street Gate, Manchester, New Hampshire, Brockway said.



Lens Turret

J. Burgi Contner, A.S.C., 536 E. 85th St., New York, has designed a three-lens turret for the Auricon single system 16mm. sound camera. The turret will accommodate lenses mounted in standard 16mm. "C" mounts.

Turret is mounted on the main camera frame and insulated from the exterior housing. The adaptation of this turret to the Auricon is said to make the camera more adaptable to news work, where frequent quick change of lenses is necessary. Contner is a consultant to N.B.C.'s eastern television headquarters and to Jerry Fairbanks, Inc., on motion picture and television equipment.

New Cine Lenses

A new lens series, produced by Bausch & Lomb Optical Company, leading U. S. supplier of motion picture studio lenses, comes in both standard and telephoto models for 8mm. and 16mm. cameras.

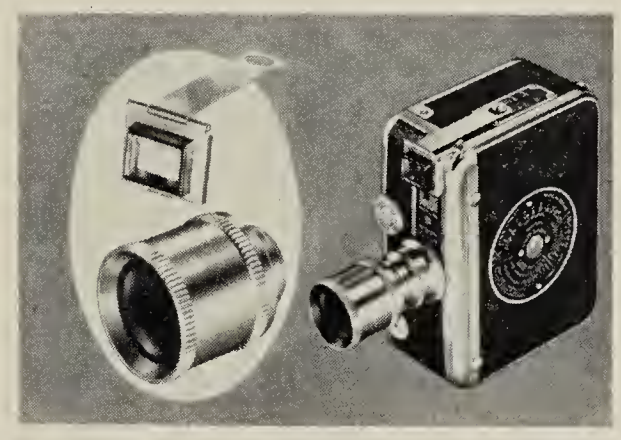
As a companion series to the optical firms' Baltar 35mm. lenses used by 20th Century-Fox, Paramount, Columbia, Universal, RKO, and other Hollywood studios, the new lenses were "designed especially for the home movie maker who demands professional results," according to Dr. Konstantin Pestrecov, chief photographic lens designer at Bausch & Lomb.

Known as Animars, each lens is fitted with a seasonal exposure guide plus click and spread diaphragm stops to assure correct exposure. The standard lenses are for photography under average light conditions, while the telephotos are for close-up shots of distant subjects, candid shots, and extreme close-ups of small subjects. A depth of field scale on the high speed and telephoto lenses enables the photographer to control the focus range on both foreground and background objects.

Seasonal exposure guides inscribed on the lens barrels help the amateur cameraman, and even those with no knowledge of photography, to obtain correct exposure in any kind of weather.

Barrels are marked with two seasons, Summer and Winter, and a corresponding scale of light conditions, Dull, Hazy, and Bright. When pictures are taken on a gloomy December day, for example, the photographer merely turns the scale so that the word "Dull" is aligned with "Winter," and correct exposure is assured.

Speeds for the five standard lenses range to f/1.9, and to f/3.5 in the four telephotos.



Wide Angle Attachments

DeJur-Amsco Corporation, Long Island City, New York, announces the addition of Wollensak wide-angle attachments for its camera line. These include a lens wide-angle attachment and a view finder attachment, available for both the single and turret cameras, using either the f/1.9 or f/2.5 (13mm. lens).

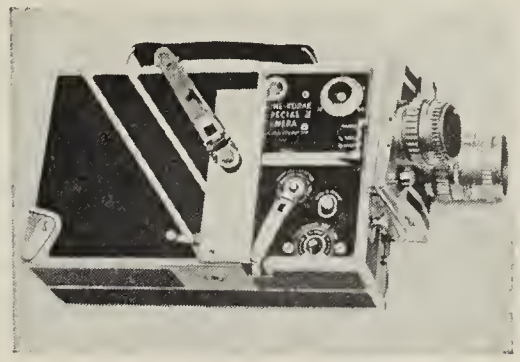
These attachments are recommended for shots taken in small, cramped quarters, such as interiors, and the like, which include more than the regular lens will cover. They double the field of view that the standard 13mm. lens gives, yet no compensation is necessary in lens speed or exposure. They are fully color-corrected.

Printer Price Reduced

The Oscar F. Carlson Company, Chicago, manufacturers of the Carlson Craft "Depue" Film Printing equipment has recently announced a substantial price reduction on their Optical Picture and Sound Track Reduction Printer, Continuous and Microfilm Printers.

The officials of the company stated that this price reduction was made possible because of improved engineering design, which lends itself to more efficient manufacturing procedures.

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Current Assignments of A.S.C. Members



Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

Columbia

• CHARLES LAWTON, "Lawless," with Randolph Scott, Dorothy Malone, Jeff Corey, Forest Tucker and Frank Faylen. Gordon Douglas, director.

• RAY CORY, "Lawless," 2nd unit.

• IRA MORGAN, "The Adventures Of Sir Galahad," (Esskay) with George Reeves, Nelson Leigh, Pat Barton and Hugh Prosser. Spencer Bennet and Derwin Abrahams, directors.

• LESTER WHITE, "The Adventures of Sir Galahad," 2nd unit.

• VINCENT FARRAR, "Blondie's Hero," with Penny Singleton, Arthur Lake, Larry Simms, Marjorie Kent and Jerome Cowan. Edward Bernds, director.

• JOSEPH WALKER, "My Next Husband," retitled "Tell It To The Judge," with Rosalind Russell, Robert Cummings, Gig Young, Marie McDonald and Harry Davenport. Norman Foster, director.

• HENRY FREULICH, "Beyond These Walls," with Warner Baxter, Anna Lee and Harlan Warde. Seymour Friedman, director.

• BURNETT GUFFEY, "Baby Is Here," with Robert Young, Barbara Hale, Robert Hutton, and Janis Carter. Henry Levin, director.

• LESTER WHITE, "Good Humor Man," with Jack Carson, Lola Albright, and Jean Wallace. Lloyd Bacon, director.

M-G-M

• ROBERT SURTEES, "Intruder In The Dust," with Claude Jarman, Jr., David Brian, Juan Hernandez, and Charles Kemper. Clarence Brown, director.

• HAROLD ROSSON, "On The Town," (Technicolor) with Frank Sinatra, Gene Kelly, Vera Ellen, Ann Miller, and Betty Garret. Gene Kelly, director.

• PAUL VOGEL, "Battleground," with Van Johnson, John Hodiak, Ricardo Montalban, George Murphy, Marshall Thompson, Tommy Breen, Jim Mitchell, Bruce Cowling, and Denise D'Arcele. William Wellman, director.

• HARRY STRADLING, "Annie Get Your Gun," (Technicolor) with Judy Garland, Howard Keel, Keenan Wynn, Frank Morgan, Edward J. Arnold, J. Carroll Naish, and Clinton Sunberg. Busby Berkeley, director.

• RAY JUNE, "Death In The Doll House," with Ann Southern, Zachary Scott, Gigi Perreau, Nancy Davis, Kristine Miller, and Tom Hellman. Pat Jackson, director.

• JOE RUTTENBERG, "Side Street," (shooting in New York) with James Craig, Farley Grainger, Paul Kelly, and Cathy O'Donnell. Anthony Mann, director.

• CHARLES SCHOENBAUM, "Stars In My Crown," with Joel McCrea, Ellen Drew and Lewis Stone. Jacques Tourneur, director.

• ROBERT PLANCK, "Bodies and Souls," with Glenn Ford, Gloria deHaven, Charles Coburn, Janet Leigh and Nancy Davis. Curtis Bernhardt, director.

• HARRY STRADLING, "Tension," with Audrey Totter, Richard Basehart and Cyd Charisse. John Berry, director.

• HAROLD LIPSTEIN, "Ambush," with Robert Taylor, John Hodiak, and Don Taylor. Sam Wood, director.

• GEORGE FOLSEY, "Adam's Rib," with Spencer Tracy, Katherine Hepburn, Judy Holliday, and Tom Ewell. George Cukor, director.

Monogram

• HARRY NEUMANN, "Cattle King," with Johnny Mack Brown, Max Terhune and Felice Ingersol. Ray Taylor, director.

• WILLIAM SICKNER, "Trail Of The Yukon," with Kirby Grant, Susanna Dalbert, and Bill Edwards. William Beuadine, director.

Paramount

• GEORGE BARNES, "Riding High," with Bing Crosby, Coleen Gray, Charles Bickford, Frances Gifford, William Demarest, and Clarence Muse. Frank Capra, director.

• CHARLES LANG, "Copper Canyon," (Technicolor) with Ray Milland, Hedy LeMarr, Macdonald Carey, Mona Freeman, and Harry Carey, Jr. John Farrow, director.

• JOHN SEITZ, "Sunset Boulevard," with William Holden, Gloria Swanson, Erich von Stroheim, and Nancy Olson. Billy Wilder, director.

• JOHN ALTON, "Captain China," (Pine & Thomas) with John Payne, Gail Russell, Jeffrey Lynn, Edgar Bergen, Lon Chaney, Michael O'Shea, and John Qualen. Lewis R. Foster, director.

R. K. O.

• HARRY WILD, "The Big Steal," with Robert Mitchum, Jane Greer, William Bendix, Patric Knowles, Ramon Navarro, and John Qualen. Don Siegel, director.

• NICK MUSURACA, "I Married A Communist," with Robert Ryan, Laraine Day, John Agar, Thomas Gomez, and Janis Carter. Robert Stevenson, director.

• ROBERT deGRASSE, "The Bail Bond Story," with George Raft, Pat O'Brien, Jean Wallace, and Jim Backus. Ted Tetzlaff, director.

20th Century-Fox

• JOE MACDONALD, "Pinky," with Jeanne Crain, William Lundigan, Ethel Waters, and Basil Ruysdael. Elia Kazan, director.

• HARRY JACKSON, "Bandwagon," (Technicolor) with William Powell, Mark Stevens, Betsy Drake, and Jean Hersholt. Irving Reis, director.

• MILTON KRASNER, "Three Came Home," with Claudette Colbert, Alan Marshall, and Florence Desmond. Jean Negulesco, director.

• LEON SHAMROY, "Twelve O'Clock High," (Shooting in Florida) with Gregory Peck, Millard Mitchell, Hugh Marlowe, Paul Stewart, Gary Merrill, and Dean Jagger. Henry King, director.

• NORBERT BRODINE, "I Was A Male War Bride," with Cary Grant, Ann Sheridan, and William Neff. Howard Hawks, director.

• JACK CARDIFF, "The Black Rose," (Technicolor) (Shooting in North Africa) with Tyrone Power, Cecile Aubry, Alfonso Bedoya, and Bobby Blake.

• CHARLES G. CLARKE, "The Quartered City," (Shooting in Germany) George Seaton, director. No announcement on cast as yet.

United Artists

• JOSEPH BIROC, "Mrs. Mike," (Sam Bischoff Prod.) with Dick Powell, Evelyn Keyes and J. M. Kerrigan. Louis King, director.

• RUSSELL HARLAN, "Gun Crazy," with Peggy Cummins, John Dahl, and Annabelle Shaw. Joseph H. Lewis, director.

Universal-International

• WILLIAM DANIELS, "Abandoned," with Dennis O'Keefe, Gale Storm, Marjorie Rambeau, and Meg Randall. Joe Newman, director.

• IRVING GLASSBERG, "Francis," with Donald O'Connor, Zasu Pitts, Richard Long, Ray Collins, and Patricia Medina. Arthur Lubin, director.

Warner Brothers

• WILFRED CLINE, "Always Sweethearts," (Technicolor) with Shirley Temple, Barry Fitzgerald, Lon McCallister, and Alan Hale. David Butler, director.

• CARL GUTHRIE, "Barricade," with Dan Clark, Raymond Massey and Robert Douglas. Peter Godfrey, director.

• PEVERELL MARLEY, "Return of the Frontiersman," (Technicolor) with Gordon MacRae, Rory Calhoun, Julie London, and Fred Clark. Richard Bare, director.

• SID HICKOX, "White Heat," with James Cagney, Virginia Mayo, Edmond O'Brien, and Ray Montgomery. Raoul Walsh, director.

• ERNEST HALLER, "Chain Lightning," with Humphrey Bogart, Elinor Parker, Raymond Massey, and Richard Whorf. Stuart Heisler, director.

• ROBERT BURKS, "Beyond The Forest," with Bette Davis, Joseph Cotten, David Brian, and Ruth Roman. King Vidor, director.

BULLETIN BOARD

(Continued from Page 194)

on a three-year contract, at expiration of his present contract with M-G-M.

•

A.S.C. PRESIDENT Charles Clarke is working on plan for the Society to grant an annual award for best photography by an A.S.C. member. Plan calls for screening best film voted each month by A. S. C.

JOSEPH VALENTINE

Joseph Valentine, a member of the A.S.C. since 1927, died in his sleep, May 19th. Winning an Acadmey Award this year for his photography on "Joan of Arc," Valentine had previously been nominated for awards on four other occasions. His initial first-camera job was photographing Shirley Mason in "My Husband's Wives" at the old Wm. Fox Studios in 1924. His most recent work was on "Love Is Big Business" at RKO. Surviving are his widow, Katherine; a two-year old son, Joseph; his parents, Mr. and Mrs. Frank Valentine, and a sister, Mrs. Lucy Gaudioso.

members, with a certificate of recognition probably going to the cinematographer. The year's twelve best films will then be evaluated in December for the annual award.

•

WARNER BROTHERS' electrical department has developed a radically new lighting feature that involves Selsyn motor controlled shutters for arc lamps. Innovation of the shutters permits unlimited freedom in the dimming of arc lights—a feat hitherto impossible.

The setup consists of small, venetian type shutters hinged in an aluminum frame and keyed to a Selsyn motor. The frame is hung in front of the arc and wired to a central control console. Operation of the motor controls light intensity from full up to off. More than 100 shutters can be set up at once and broken down into light moves running from slow fades to complete blackouts. Shutters can be utilized independently or in groups and a total of eight light cues can be worked in a single setup.

Use of the shutters proved invaluable on the "Fighter Squadron" set when the script called for a complete blackout of 35 arcs in a bombing sequence in the Technicolor saga of the Army Air Forces. Cutting the switches on such a great number of arcs would have caused the studio generators to run wild with an underload, so Selsyn shutters were utilized with completely satisfactory results.

•

FIRST COMPREHENSIVE report on developments in production and processing of motion pictures as television program material, and a means of recording television programs has been compiled and published by the Society of Motion Picture Engineers. Report, in booklet form and selling for 75c a copy, was compiled by a group of 32 specialists within the Society's Television Committee.

•

GASPARCOLOR reportedly will enter the market soon with a complete new 35mm. color film.

•

EASTMAN KODAK Company has opened a new research laboratory in Panama City, Panama. Designed for the study of photographic materials under tropical conditions, its facilities include a modern two-story building in the Juan Franco area of Panama City and a jungle test station on Barro Colorado Island in Gatun Lake, part of the Panama Canal. The new building has offices, a photographic studio, a library on photography, and air-conditioned storage rooms on the ground floor. On the second floor are darkrooms, and rooms for research in chemistry, biology, physics and sensitometry. A darkroom has been built on the roof where it will be exposed to full tropical conditions. Main activity of laboratory will consist of a study of the vast range of problems that face photographers in the tropics.

•

TELENEWS NEWSREEL originating in New York, is now turning out eight different newsreels each week: two for theatres, one double reel weekly for television and a five times a week daily reel, also for television.

THE FOUNTAINHEAD

(Continued from Page 221)

necessary to keep the perspective constantly changing from floor to floor as she rose.

The settings for "The Fountainhead", besides being visually striking and perfectly matched to the theme of the story, are notable for yet another reason completely unrelated to art: they were economical to construct.

Back in the all-too-recent days when a film's worth was judged (at least by those in the industry) according to the amount of money spent on it, the consensus of opinion was that settings could not possibly be good unless they were expensive. Now that production economy has become the smart thing on the sound stages, the less expensively a good effect can be achieved, the more it is praised.

The settings for "The Fountainhead" thus come in for a heavy share of praise, because their simpliciay of design and detail made them economical to construct and decorate. Paradoxically, this simplicity is so rich in its clean forceful sweep, that an impression of expensive production value permeates the entire film.

An example of this forceful economy can be drawn from examining the sets for the architect's apartment and for the publisher's office. In each of these sets, huge windows take up one whole wall of the huge room. Outside, skillfully executed photo-murals form the cycloramic skylines. The remaining walls are absolutely plain, with only a few functional pieces of modern furniture for set dressing.

"The Fountainhead," artistically speaking, achieves its visual elegance by understatement."



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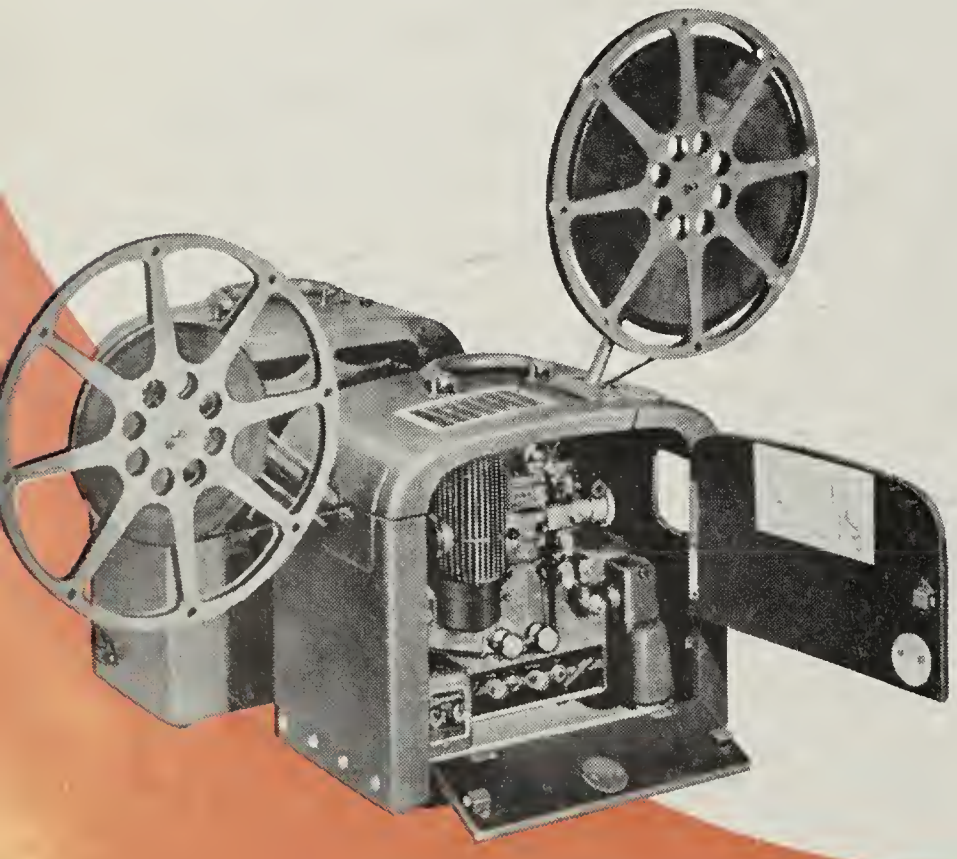


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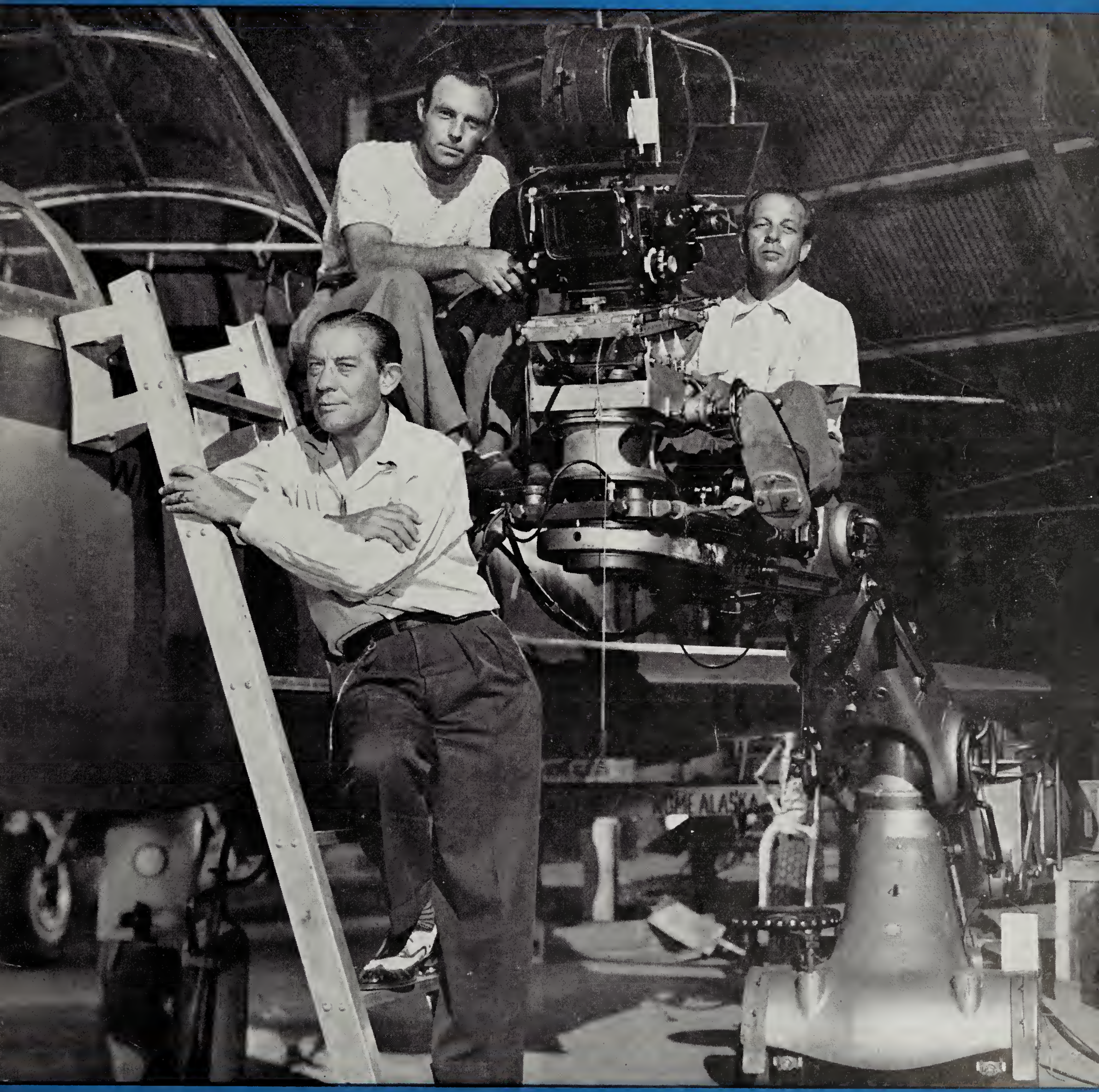
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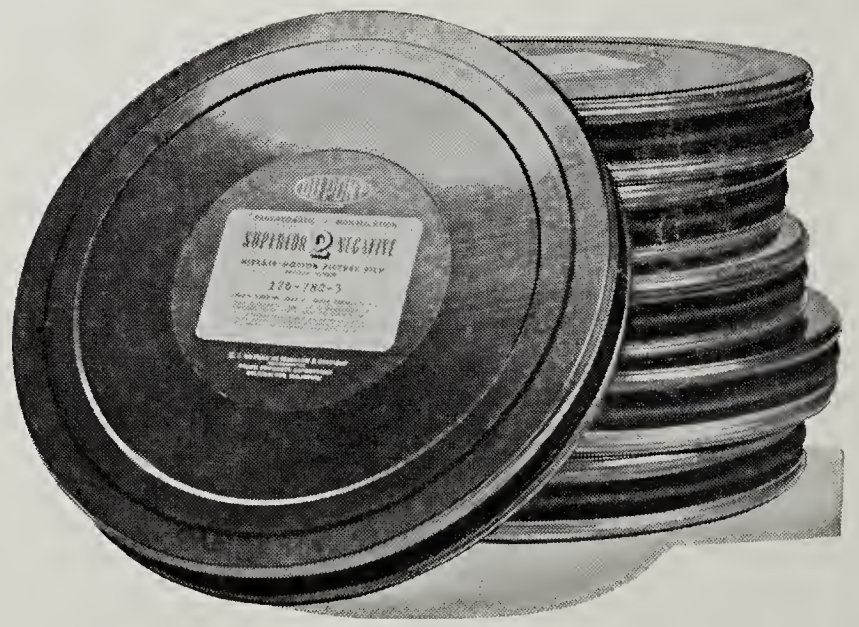


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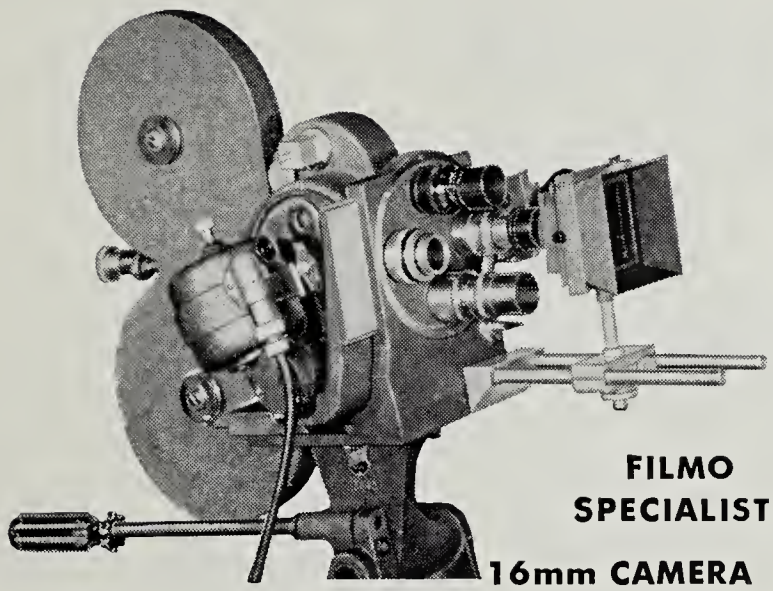
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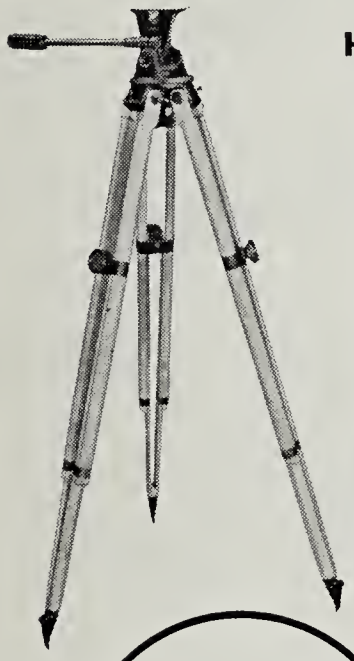
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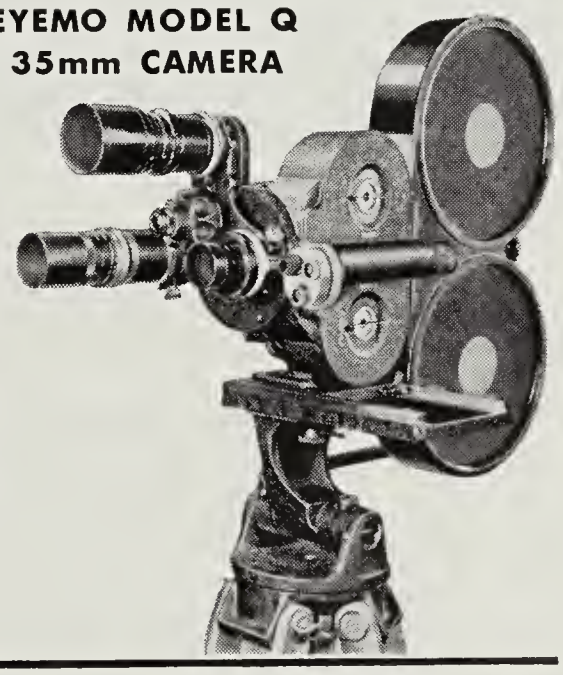
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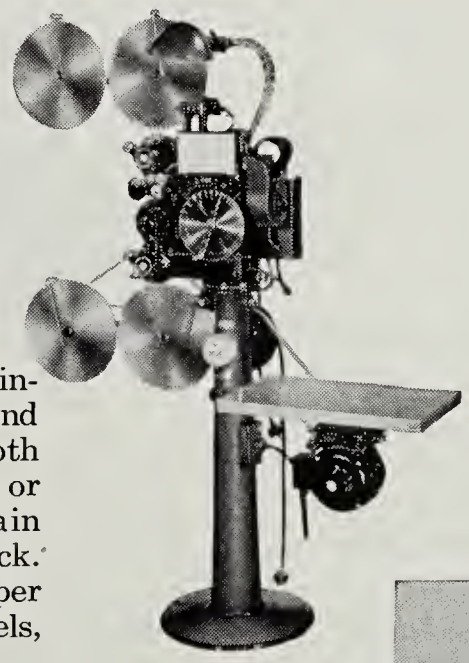
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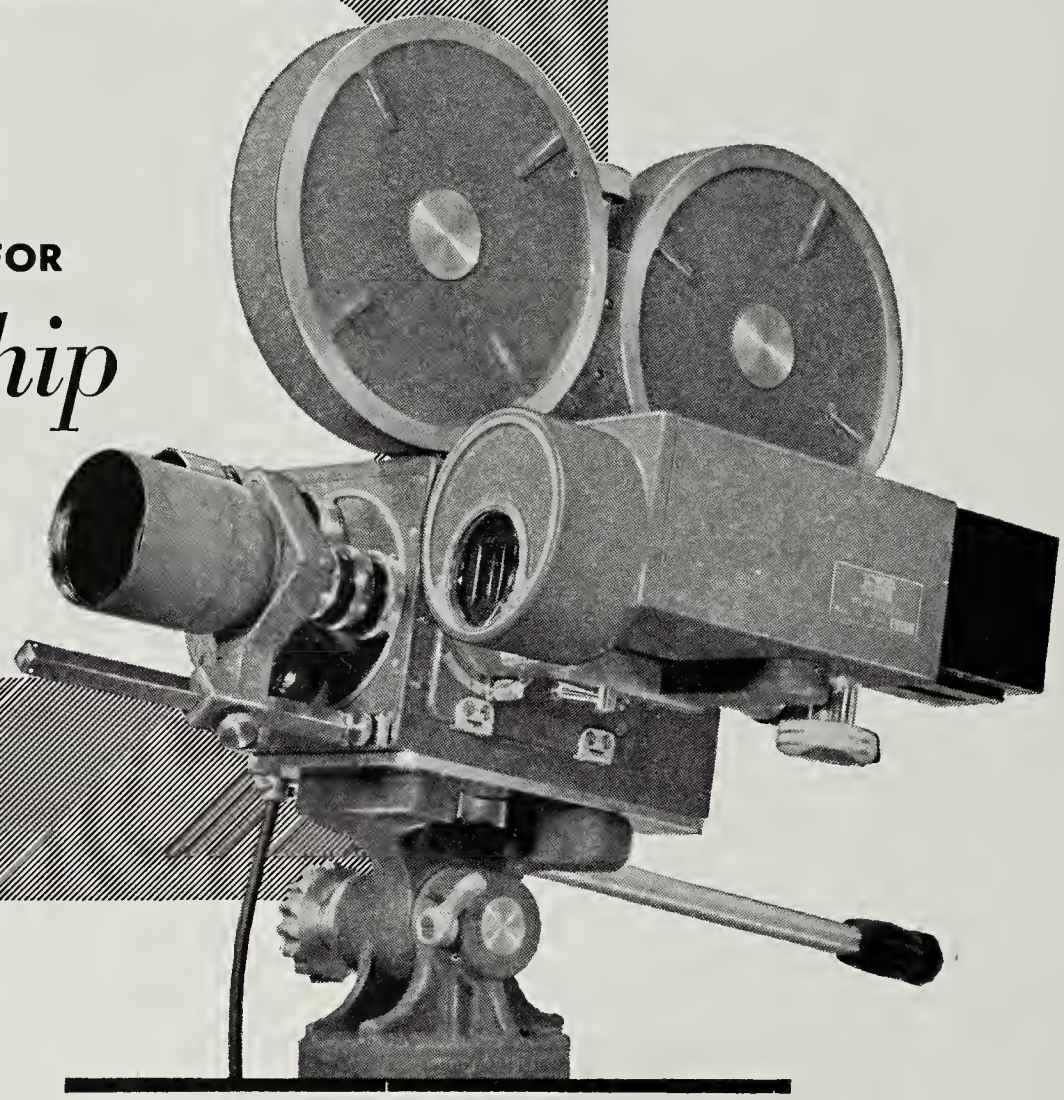
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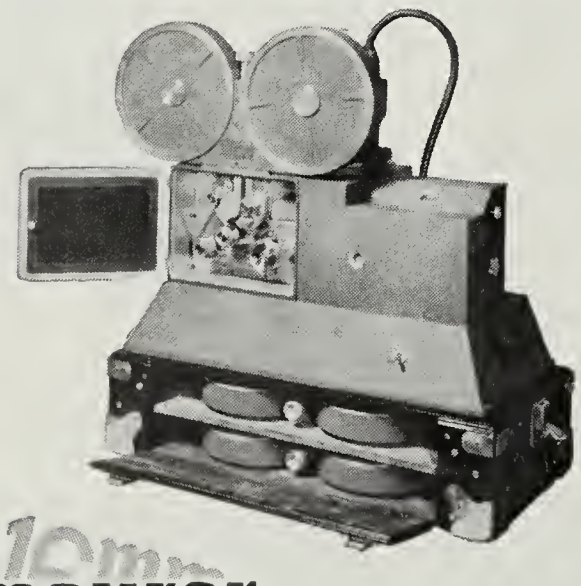
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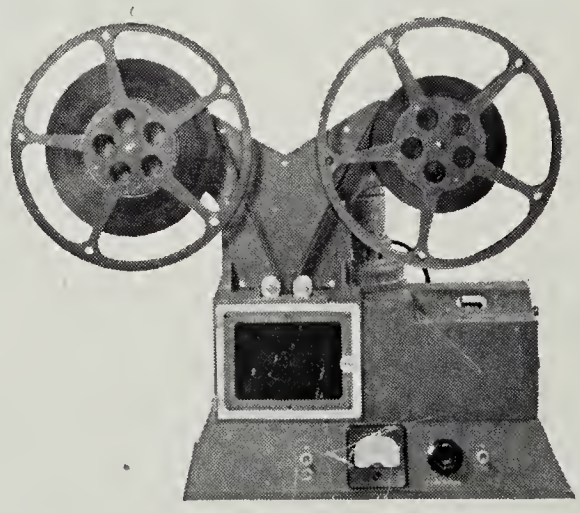
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The Society meets regularly once a month at its clubhouse at 1782 North Orange Drive, in the heart of Hollywood. On November 1, 1920, the Society established its monthly publication "American Cinematographer" which it continues to sponsor and which is now circulated in 61 countries throughout the world.

Dominant aims of the Society are to bring into close confederation and cooperation all leaders in the cinematographic art and science and to strive for pre-eminence in artistic perfection and scientific knowledge of the art.

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Telephone: GRanite 2135

VOL. 30 — JULY • 1949 — NO. 7

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ON THE COVER

ERNIE HALLER, A.S.C. (foreground) used the Research Council Camera Crane to advantage in shooting scenes in an airplane hangar for his current Warner Brothers' picture assignment, "Chained Lightning," which stars Humphrey Bogart and Elinore Parker. Pictured with Haller is his operator, Ellsworth Fredericks (right) and assistant, Wally Meinardus. Photo by Jack Woods.

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application.

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AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.

Hollywood
Bulletin Board



CHARLES G. CLARKE, A.S.C.—Filming T.C.F's. "Quartered City," in Berlin, Germany

REPORT FROM BERLIN— A.S.C. president, Charles G. Clarke, who is currently in Berlin to photograph "The Quartered City" for 20th Century-Fox, relays his impressions of postwar Germany in a letter addressed to fellow members of the Society:

"June 3, 1949:

"I wish I could write you a stirring article for the AMERICAN CINEMATOGRAPHER regarding photography in Germany, but the truth is I haven't done much as yet and besides it's little different from photography in any other place. Our cast hasn't come over yet and our director is writing the script, so we haven't started actual shooting.

"During the blockade when the airlift operations were heavy, we did make some airlift activity scenes for the picture. These were rushed to Hollywood for processing. Part have been returned and we have screened them here. Our time has mostly been spent in selecting locations, preparing equipment and acquainting our German crews with Hollywood equipment. I have two 20th-Century cameras and a Mitchell, while the sound man brought over complete sound recording equipment.

"My operator, Lou Kunkle, is with me but our assistants are German studio men. They are very willing and as anxious to get started as we are. Our interior scenes are to be made at the old UFA studios at Templehof — right in the heart of Berlin, adjoining the famous Templehof airfield. Much of the studio was shot up during the war and almost all of the equipment carried away. We have located some Army searchlight generators and are having some lights built here. Our grip equipment is also being built here.

"As the electric current here is 200 volts, it means we'll have to use special globes and generators. We did bring along some of the Color-Tran light outfits and a special transformer for converting the 220 volt current to their use. We expect to use these lights for many of the natural interiors we do here. So much for what we expect to do.

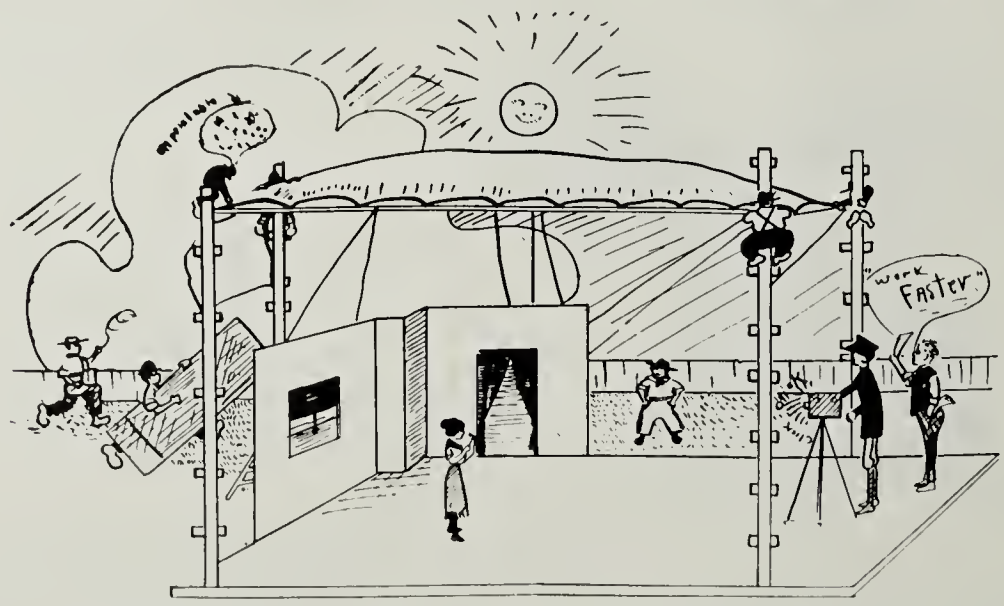
"Victor Milner is here and we have had many pleasant evenings together. Naturally we talk 'A.S.C.' At the moment he is touring southern Germany, but I see his son, Major Victor Milner, Jr., frequently — a fine boy and doing very important work here in Berlin. Compared to western Germany, Berlin is a very dreary place. There has been terrible destruction, and as the place is surrounded by Russian 'zones,' life is quite uncertain. Most of the people have left who could, so except for certain sections which escaped bombing, the streets are almost empty.

"Grotesque wrecks of buildings loom against the leaden skies which are always overcast. Of the buildings that still stand, all the window glass is gone — blasted by the concussion during wartime shelling of the city. These are boarded up or covered with cardboard salvaged from shipping cartons. The only things which appear to have survived as though nothing had happened are the trees and the flowers. These are everywhere. Wistaria climbs over ugly skeletons of buildings and bursts into bloom as though it were trying to cover the scars of war. Chestnut trees line the streets, with rose and white blossoms standing up like Christmas tree candles.

"Right now the city's few streetcars are not running because of a strike. A few omnibusses are to be seen on the streets but they are always bulging with passengers. The rest of the populace walk. Nearly everyone carries a briefcase and a bunch of flowers. About the only automobiles seen are military jeeps and cars. Because of the dearth of gasoline, there are scarcely any private cars on Berlin streets. That is Berlin today — a mere shadow of its former gay self, but still grimly carrying on.

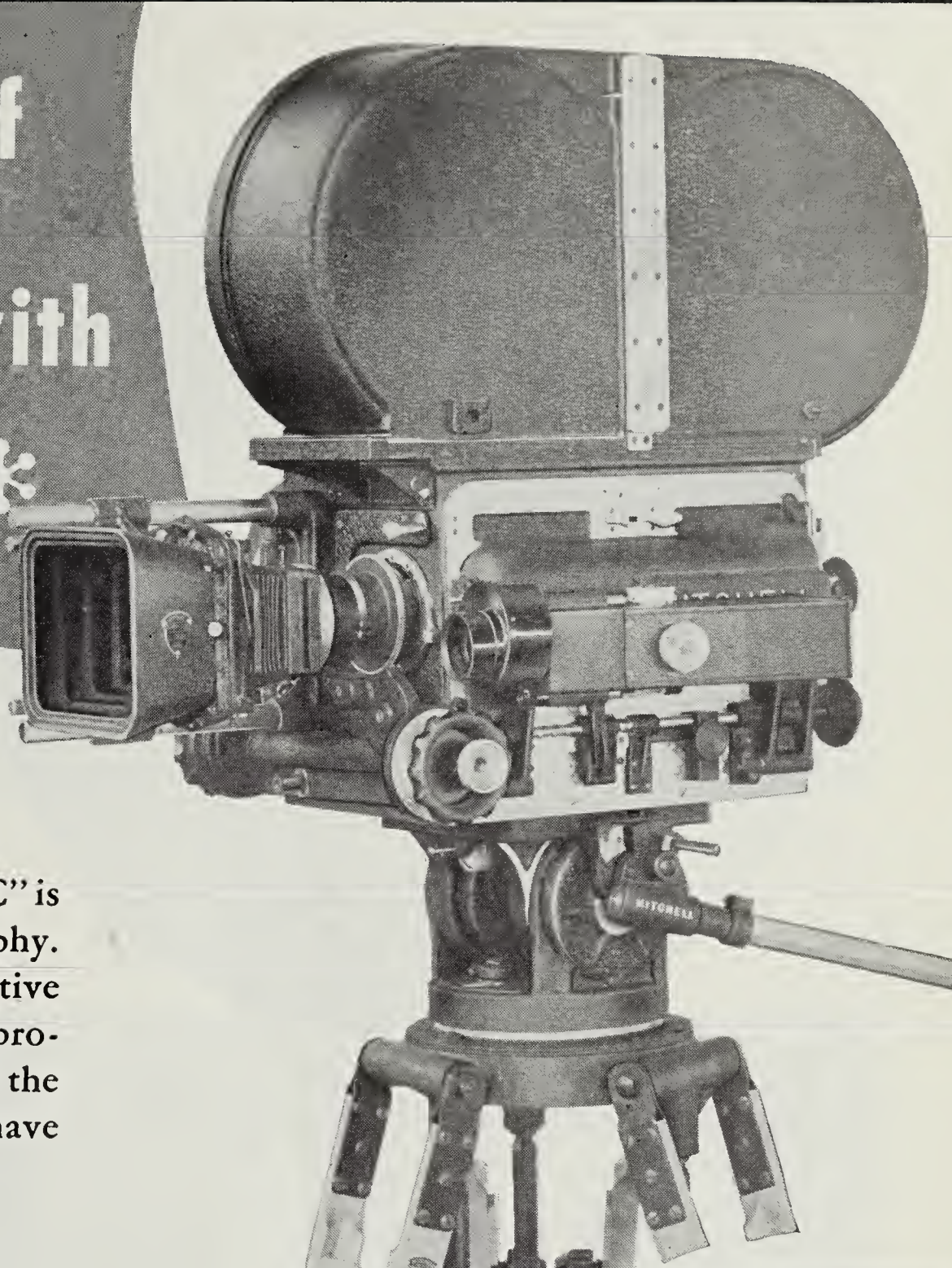
"These people are hard workers and will, one day, when their political future is secure, rebuild their beautiful country. If our 'reds' at home could only see Soviet rule and actions as they are prac-

(Continued on Page 265)

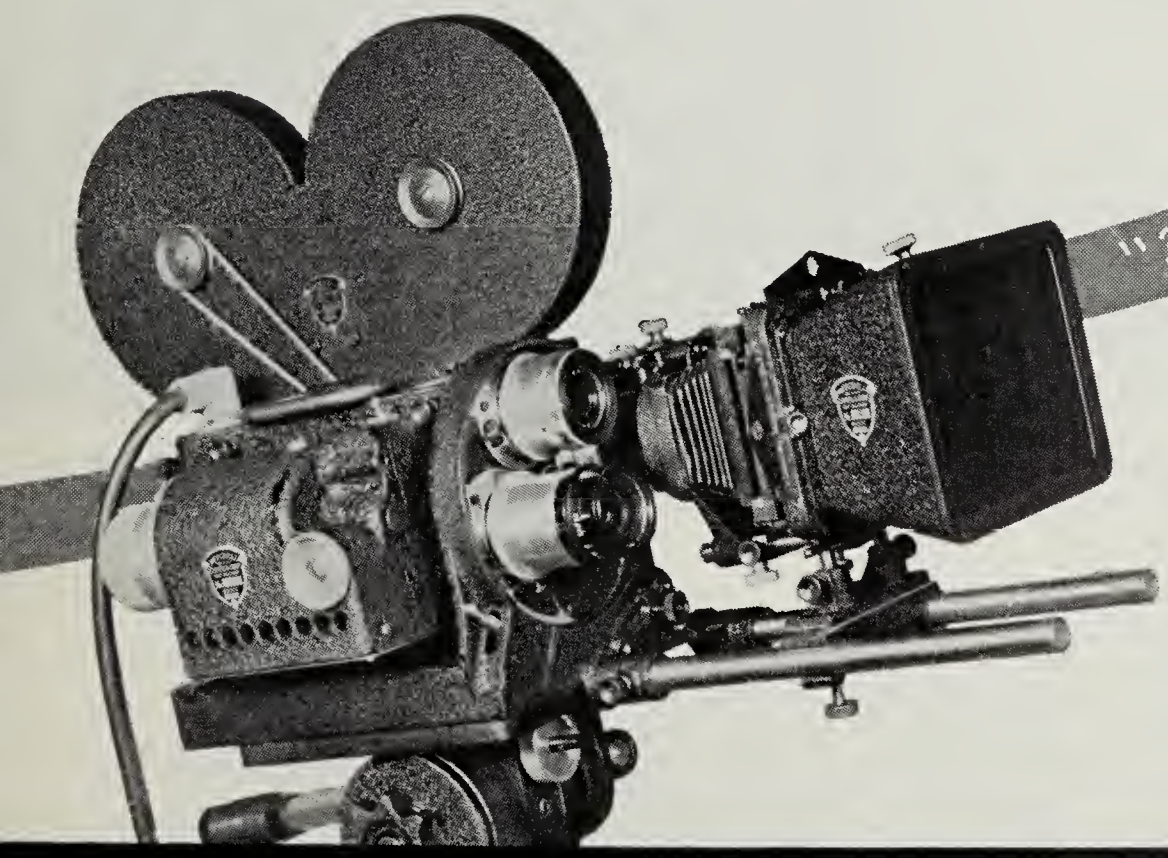


AMONG the memorabilia acquired by Gus A. Peterson, A.S.C., during his association with the old Kalem's studios in Santa Monica during early silent film days, is this sketch by a sidelines observer of picture making on an open, windswept stage. Gus says cameramen had lighting problems in those early days, too, and points to the four "gaffers" in this picture perched perilously on top of each of the four stanchions, struggling to hold the flapping diffuser in place while scene is being shot.

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* 85% of the motion pictures shown in theatres throughout the world are filmed with a Mitchell



CLYDE DeVINNA, A.S.C., (left) who recently returned from a filming assignment in India, found native Indian cameramen highly artistic and resourceful, accomplish miracles in the face of tremendous odds. At right is B. Deoji, one of India's top cinematographers.

Clyde DeVinna Reports On

India's Movie Industry

By CLYDE DE VINNA, A.S.C.



LIGHTING in American-made films is closely studied by the Indian cameraman with the result that he achieves remarkable results considering the inadequacy of his equipment. Above is well-lighted two-shot from recent film.

THE MOTION PICTURE industry in India is surprisingly extensive and, in many respects, tremendously interesting. A definite overall picture of it is difficult to obtain, because it is not at all centralized as we know the industry in Hollywood. These were my observations during my recent assignment in India as director of photography for Oriental-International Pictures. This company had been granted rights to photograph the Keddah or annual wild elephant roundup —the first held since the war. After somewhat hasty preparation, I was sent flying overseas to Calcutta, thence to Bombay to photograph the proceedings on Monopack.

Virtually all the producers in India function independently. There are at least 25 studios operating in the country, principally in the three major cities, Calcutta, Bombay, and Madras, but they all operate as rental concerns; none, so far as I was able to learn, produce pictures for themselves. There seems to be little or no organization in the industry, either among producers, talent, or technicians; consequently competition is keenly individual.

There are a number of stars, both men and women, who are prime favorites with the public and therefore in great demand, with the resultant bidding from producers boosting their salaries to figures relatively fantastic. This creates another situation a bit more difficult for us to realize: It is not unusual for certain stars, as well as leading directors and the better technicians, to be working in several pictures simultaneously!

Inquiry into this unusual state of affairs brought forth the answer: the producer who first signs the individual has priority, and each succeeding employer must make his arrangements by co-operating with those producers preceding him. This may also be the reason for other unusual features of their method of production. Exterior sets are nearly always built on the stage; there is very little location work. It is not at all unusual for a studio to work in three shifts, with three different pictures working in turn through the day and night.

A curious custom, which is so prevalent that it almost has become a ceremony, is that which accompanies the first day of shooting on a picture. After all arrangements have been made, studio space obtained and the first set erected, the first day's shooting is scheduled. The initial shot is most carefully arranged and rehearsed, extra care being taken to see that this



TYPICAL of the lighting technique practiced by India's top flight cameramen is this scene from the production "Amprapali," photographed by Fali Mistry, whom DeVinna calls the "Bill Daniels" of Indian cinematographers.



ANOTHER scene from "Amprapali" that demonstrates the Indian cameraman's studied use of lighting, which differs widely from American methods but nevertheless achieves a compelling and dramatic pictorial effect.



A TYPICAL interior in a Bombay studio. There is little or no overhead lighting due to the lack of necessary equipment. Also limited power is a big problem. All studio lights draw current from domestic power lines.



AN INTERESTING highlight of India's movie industry is the wide use of signboards to advertise native pictures. The signs, which are everywhere, are individually handpainted and lettered instead of lithographed as in the U.S.

particular scene goes smoothly, for nothing must go wrong with this initial effort. When the camera finally turns and the take is made, work is called off for the day and the producer, cast, crew and friends all join in a feast and a general celebration of good will. This is to insure not only the successful production of the picture but its favorable reception by the public upon its release. Doubtless some similar plan would find great favor with our own crews in Hollywood.

The cameraman of India is a quite amazing person; the more I saw of him and his efforts at the different studios I was fortunate enough to visit, the more I marveled. He has no such well organized crews as prevail under our system of production; he is about as nearly a one-man organization as is possible, and how he manages such uniformly good results with the conditions under which he works is beyond my understanding.

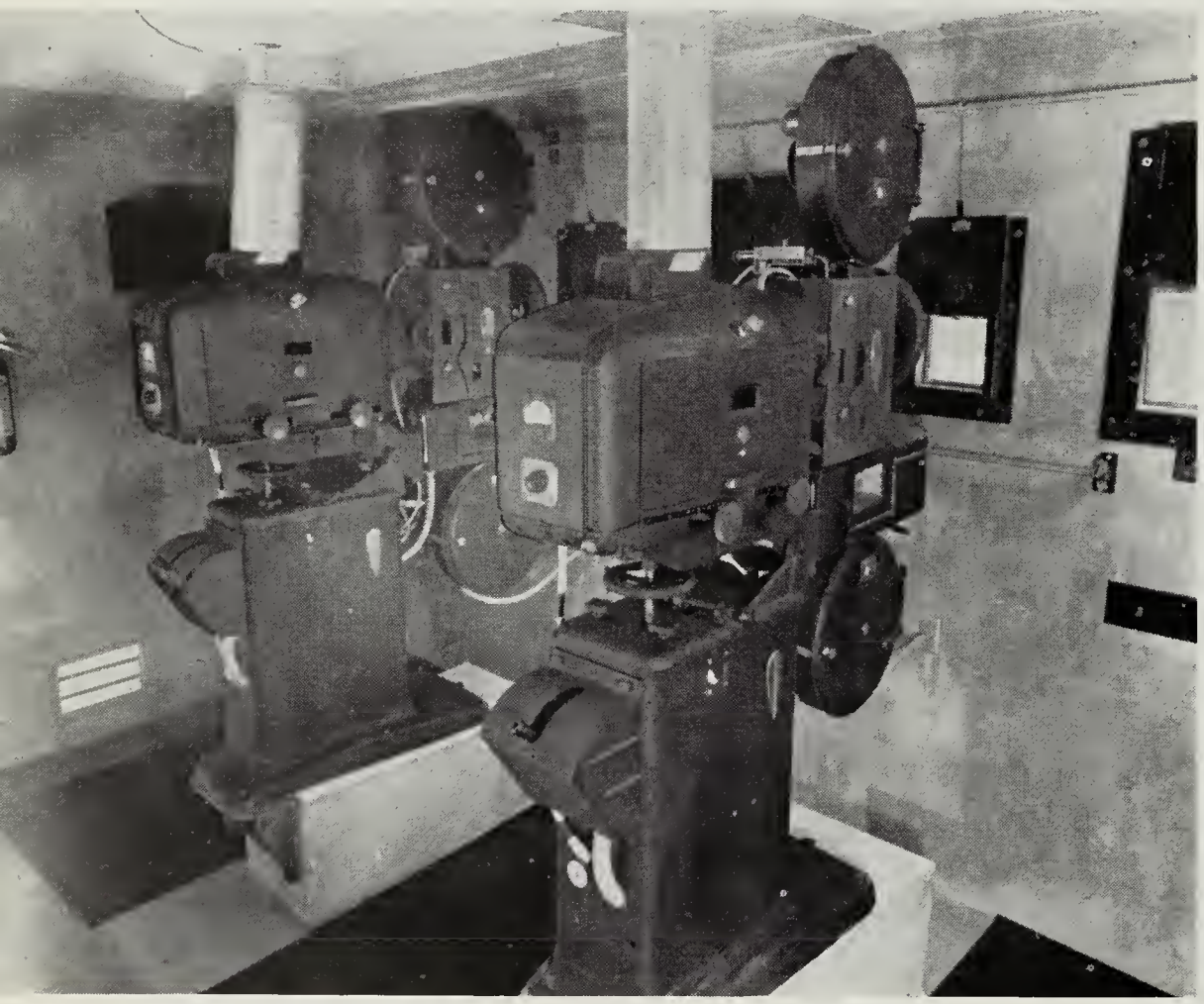
If definite efforts were to be made to put more handicaps in his way, I don't know just how it could be managed. He has to supervise and check makeups, hairdresses, wardrobe, sets, and practically everything else connected with the picture; he lights his own sets, literally placing and adjusting each unit before turning it over to the "lamp coolies" (their term for electricians). He sets and operates his own camera; while he has plenty of semi-skilled help at his command, he usually finds it advantageous to do nearly everything himself.

His lighting equipment is of fair quality, but scant as to numbers of units. The average set in India is shot with less

(Continued on Page 260)



1



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The A.S.C's. New

Comfortable club-like atmosphere is salient feature of unique projection installation in Society's Hollywood headquarters.

THE SCREENING of motion pictures at the American Society of Cinematographer's clubhouse is a project that has long been high on the Society's planning program. Recently the Society has placed increasing importance on the study of the technical problems of cinematography, and the development of new cinematic techniques applying to present day film production. Thus it found it imperative to be able to project selected films before its membership as a means of study and as a source of discussion material at its monthly technical meetings. Also considered was the convenience of being able to preview films photographed by its members.

After considerable planning and surveys made by various contractors, the Board of Directors finally solved the many problems posed by building code restrictions and fire ordinances with a unique plan to erect a modern, fireproof projection booth adjacent to the clubhouse. Thus motion pictures could be projected through a window and onto a screen erected on the north wall in the club lounge. Several months ago the plan was approved, the contract let, and on May 17th the Society's new "theatre" was dedicated with a screening the *Champion*. It is important to note that both picture and sound quality conforms with the highest standards established for the best motion picture theatres.

Credit for this, of course, is due the excellent R.C.A. projection and sound equipment. Within the air-conditioned projection booth are two latest type R.C.A.-Brenkert high-intensity arc 35mm. sound-film projectors augmented by the newest type R.C.A. sound amplifiers. In addition, this equipment is fitted

1 — To overcome building code restrictions, separate projection booth was built adjacent to A.S.C. clubhouse. Pictures are projected through window to screen in clubhouse lounge.

2 — Interior of modern, fireproof projection booth shows latest type R.C.A.-Brenkert projection machines which give a brilliant screen image at throw of 60 feet.

3 — Looking toward projection booth from interior of clubhouse lounge. Seating capacity is 100. Comfortable club chairs and divans provide bulk of seating. Intercom phone and remote volume control are at rear.

Preview Theatre

By FREDERICH FOSTER

Photos by Felix and Nikki Zelenka

with all the latest gadgets and doodads that make the projectionist's job fool-proof as well as something of a cinch. Included is a phonograph turntable for playing music or transcriptions during intermissions and before the start of a show. Monitor speakers afford a constant check on sound quality and volume of both picture and records.

Within the clubhouse lounge, which becomes the theatre when pictures are shown, is a 7 by 9 foot R.C.A. "Snowwhite" projection screen. This is artistically framed in a shadowbox suspended from an overhead track. This latter feature makes it possible to position the screen in center of wall for projection, and to quickly slide it out of the way when not in use. Decorative draw curtains of soft gold fabric conceal the screen and its frame when in this position.

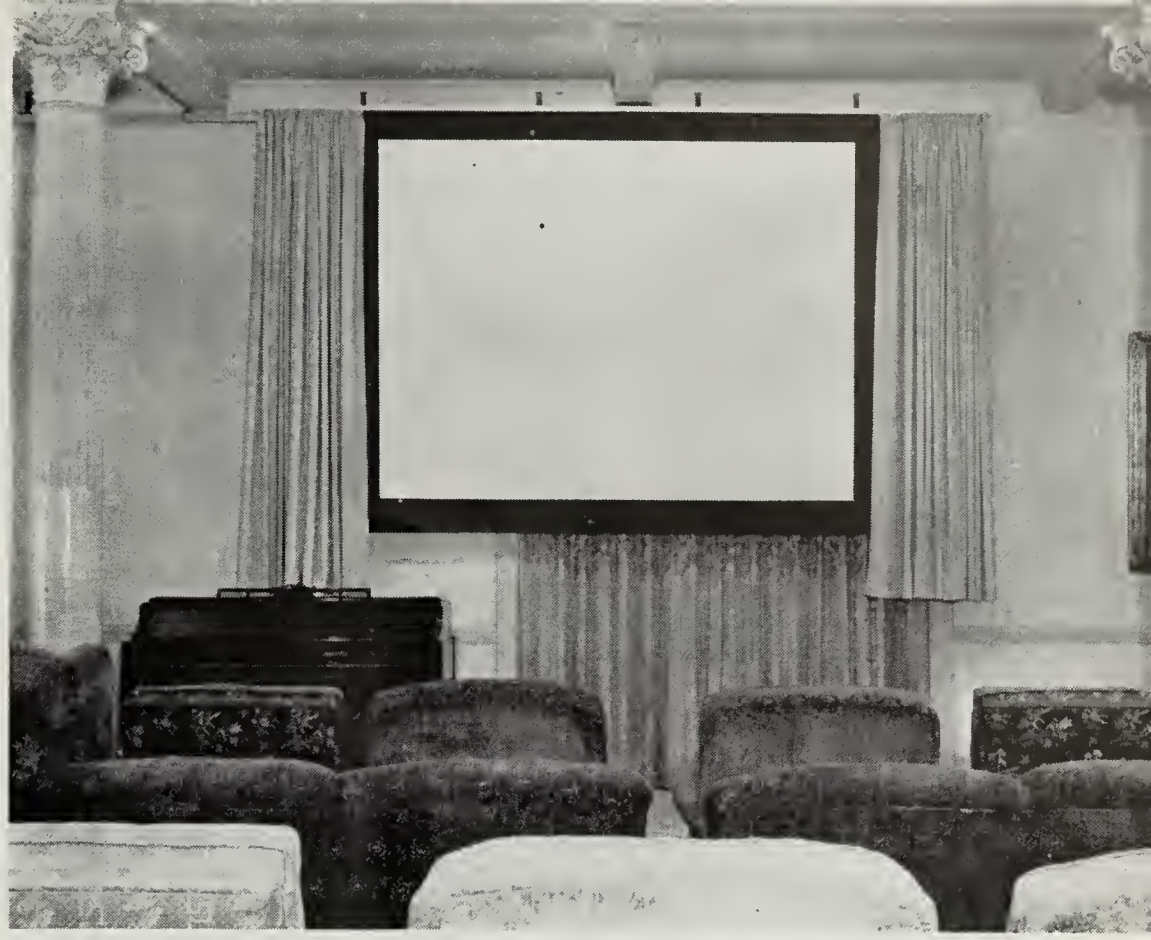
The speaker of special design is housed in a portable cabinet which is rolled out of a wall niche and into position beneath the screen when pictures are to be shown.

A table in the lounge is provided with the usual preview theatre facilities—remote volume control panel and intercom phone to the projection booth.

Comfortable lounge chairs and divans provide luxury seating for upwards of 50 persons, and seating for 50 more or a total of 100 can be provided with the addition of rental chairs. The screen throw is 60 feet and the screen is so positioned as to afford easy observation of pictures from any position within the lounge.

The facilities for projecting 16mm. sound films also have been provided for with installation in the booth of the latest model Bell

(Continued on Page 262)



4



5



6

4 — Carefully balanced high-intensity arc light assures projection quality on 7 by 9 foot screen equalling that found in the better modern motion picture houses.

5 — The comfortable appointments of the A.S.C. clubhouse lounge provide an ideal setting for informal get-together of club members before and after screening of films.

6 — And for refreshments there is the bar adjoining the lounge. Also there is a well-equipped kitchen wherein on occasions a cateress provides tasty buffet snacks or a well-rounded dinner menu for an A.S.C. banquet.

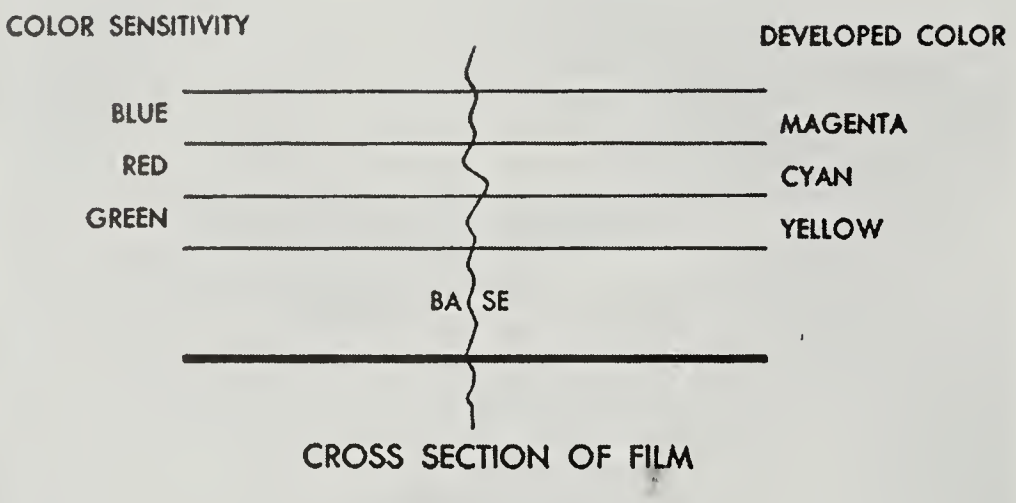


FIG. 1 — Du Pont's new release positive color film consists of three emulsion layers superimposed on one side of standard cine base. Arrangement of layers departs from that heretofore used in monopack films. The important magenta layer is on top while the least important yellow layer is on the bottom. This contributes to sharpness of definition.

DuPont's New Color Film

By V. B. SEASE, A.S.C.

Photo Products Dept., E. I. du Pont de Nemours & Co.

DU PONT HAS produced a color release positive stock suitable for making color prints in the professional motion picture field. It is designed to be printed from three black and white separation negatives and to be developed in color during a single passage through a developing machine of conventional construction. The film has a monopack structure consisting of three emulsion layers superimposed on one side of standard cine film base. Each layer embodies in a unique manner an appropriate colorless dye generator capable of forming a dye image under development.

The mechanism of color forming development in its original conception is rather simple. When a developing agent reduces silver halide the agent itself is oxidized. If certain types of developing agents are chosen and a suitable color-forming compound is present, the oxidized product immediately couples with the color former to produce a dye in situ. The "pyro stain" encountered by early photographers was simply oxidized pyro coupling with itself to form a yellow insoluble dye on the silver image as it developed.

An interesting proposal was made as early as 1912 to utilize color formers for the production of color pictures by coating three emulsions on one support according to the following diagram:

BLUE SENSITIVE	EMULSION	—	YELLOW	COLOR	FORMER
GREEN "	"	—	MAGENTA	"	"
RED "	"	—	CYAN	"	"
SUPPORT					

This proposal, though theoretically sound, failed to function because the available color formers had an appreciable solubility in water which caused them to migrate into all the layers, especially during coating and processing.

(Continued on Page 257)

Translucent Photo

GIANT PHOTO backgrounds on a single, seamless, translucent sheet of material and made from a single negative have long been the cinematographer's and the art director's ideal, but until recently no one had been able to solve the numerous problems involved. It remained for M. B. Paul, veteran motion picture photographer, to devise a satisfactory method and today he is turning out photo backgrounds for Hollywood movie studios that not only are giant size but translucent and in color as well.

Giant photo backgrounds have been used by the studios for years, but these have been created by making the enlargement in sections, then painstakingly matching and pasting the sections on a large sheet of fabric to form the whole picture. Paul's method produces single enlargements up to 20 by 45 feet.

It was Paul's newly developed process that made possible the huge, realistic photo background of New York's skyline that backdropped the sculptress' studio in *Champion*. Other recent productions in which Paul's backgrounds were used are *Red Light, Band Wagon,* and *Fighting Plainsman.*

Paul is believed to be the first man to develop a satisfactory method of applying sensitized emulsion evenly distributed on large scale translucent surfaces and this, together with his process for making seamless translucent backing material up to 45 feet in width, is the key to his successful method of producing giant photo backgrounds. To make a background, a sheet of this material is pierced with grommets around the edges, then laced to a large perpendicular wooden frame and stretched taut. Then it is sensitized by spraying an emulsion over the surface with an airgun in complete darkness. The picture negative is then projected onto the sensitized sheet by a special condenser-type photo enlarger, while Paul controls exposure by use of dodging panels. The resultant image is then developed and fixed in huge tanks.

This produces an enormous black and white picture, clear and sharp and with

(Continued on Page 259)

Backgrounds Cut Production Costs

New giant photo backgrounds are made in one piece, are seamless and wrinkle-proof, and may be used for either black and white or color photography.

By PHIL TANNURA, A.S.C.



M. B. PAUL, photo background specialist, stands before giant photo enlargement of New York City skyline, which was used on set of sculptress' studio in the Screen Plays' production, "Champion," pictured at right.



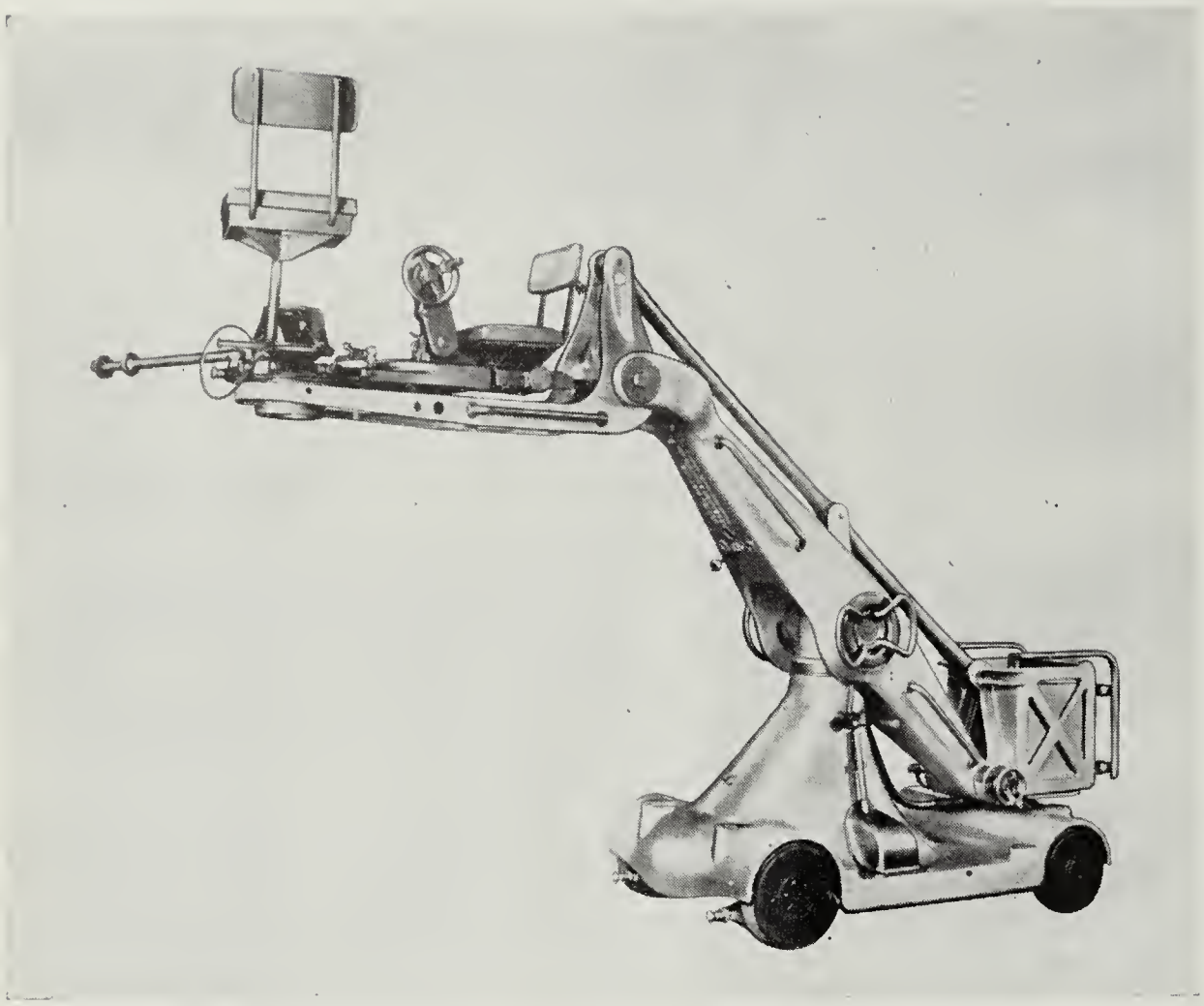
HOW enlargement was used in conjunction with the "Champion" set is shown above at far right. It was illuminated both front and rear — the latter by reflection of light from huge white backdrop.



STANDING before recently completed photo background for the "Fighting Plainsman," filmed in Cinecolor, M. B. Paul (left) and the author compare details with the 8 by 10 negative from which it was made.



PERSPECTIVE of Paul's backgrounds is demonstrated here as he sits before photo enlargement of office building corridor. Here a single photo enlargement saved producer cost of building a set or moving to location to make the shot.



STREAMLINED, scientifically balanced Research Council Camera Crane, with camera installed, will pass through a door 36" wide by 6' high, permitting easy movement from location to location. Camera table may be panned a full 340 degrees by operating a handwheel, and locked as desired.

The Research Council Camera Crane

New crane affords lens heights from two to ten feet, negotiates narrow doorways without need for removing camera or equipment.

By FRANK E. LYON

EVER SINCE the introduction of the first crude camera crane in motion picture photography, there has been continuing development and improvement of the crane by technicians in the various studios. Nearly every studio has designed and built what it believed was the ultimate in camera cranes, yet as time went on, still better improvements were developed and incorporated into each crane. In time there were in existence about an even dozen different models, each marked by at least one outstanding feature.

Recently the Motion Picture Research Council, Inc., a corporation formed some time ago by all the major producing companies of Hollywood, developed a camera crane which incorporates all the best features of the cranes designed earlier by the various studios themselves. The Research Council Crane became one of the major projects of the Council's program to improve motion picture studio techniques and it has since been adopted as standard equipment by all the member studios.

Through collaboration of the leading technicians of the major Hollywood studios, whose practical and technological recommendations were correlated by the Motion Picture Research Council, Inc., the Houston Corporation of Los Angeles is now producing these cranes. Meeting with immediate success in the Hollywood studios, the cranes are now being exported to meet the demands from many parts of the world.

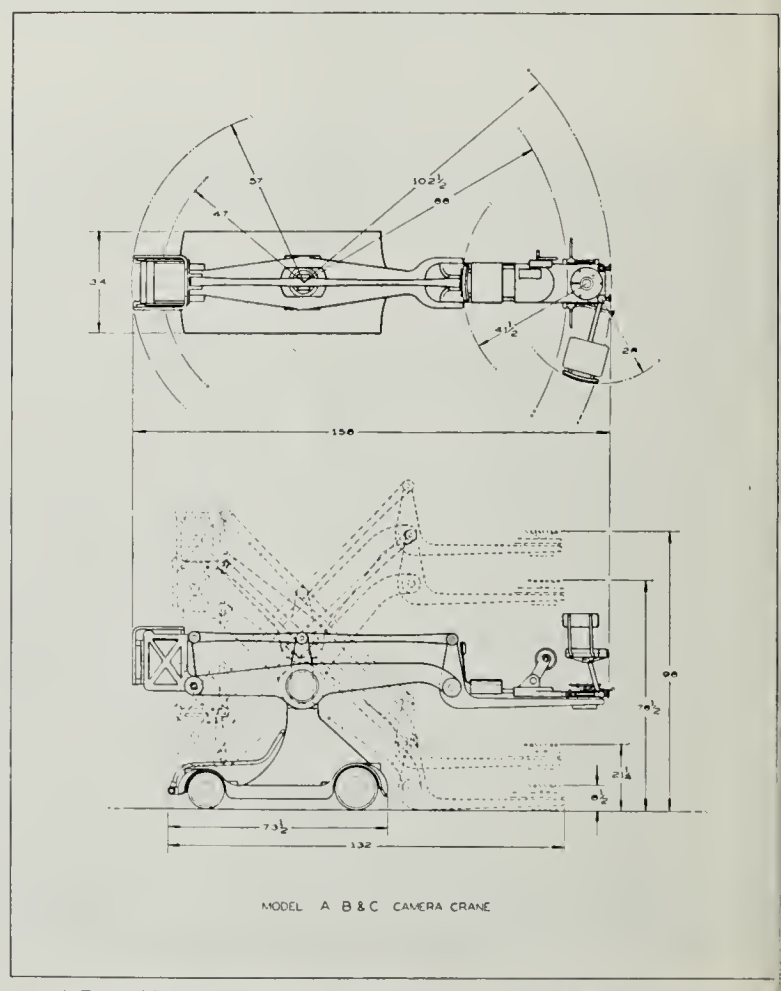
The Research Council cranes provide studio cameramen with the means for easily obtaining the dramatic viewing angles, the smooth panning of large scenes, the approaches and retreats that add drama, life and interest to modern motion picture production. The cranes afford a continuously variable lens height from 2 to 10 feet, 340-degree panning around the camera axis and a full 360-degree panning around the crane axis. The combination of possible viewing angles and camera movements, shown in the illustration, is almost unlimited, and gives the cameraman many opportunities to develop new techniques and with a minimum of equipment.

The crane, with a camera installed, will pass through a door 36 inches wide by 6 feet high, permitting easy movement from location to location without disassembly and reinstallation of camera or equipment. The cranes offer many other new features that make for simplicity of operation and increased safety.

The camera table may be panned through its 340-degree panning angle by operating a handwheel convenient to the operative cameraman, and can be locked into any desired position by a friction brake. A special safety tilt mechanism locks the boom in a fixed position in case one of the operators steps off the platform, offsetting the tendency of any dangerous "see-saw" action, due to sudden boom unbalance.

Absolute balance is obtained with counterweights and a vernier counterweight inside the arm. The center post is a telescoping tube permitting the boom to be panned a full 360-degrees and

(Continued on Page 252)



THE COMBINATION of possible viewing angles and camera movements is almost unlimited, as shown in above diagram, and afford the cameraman opportunities to develop many new and unusual photographic effects.

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Family—

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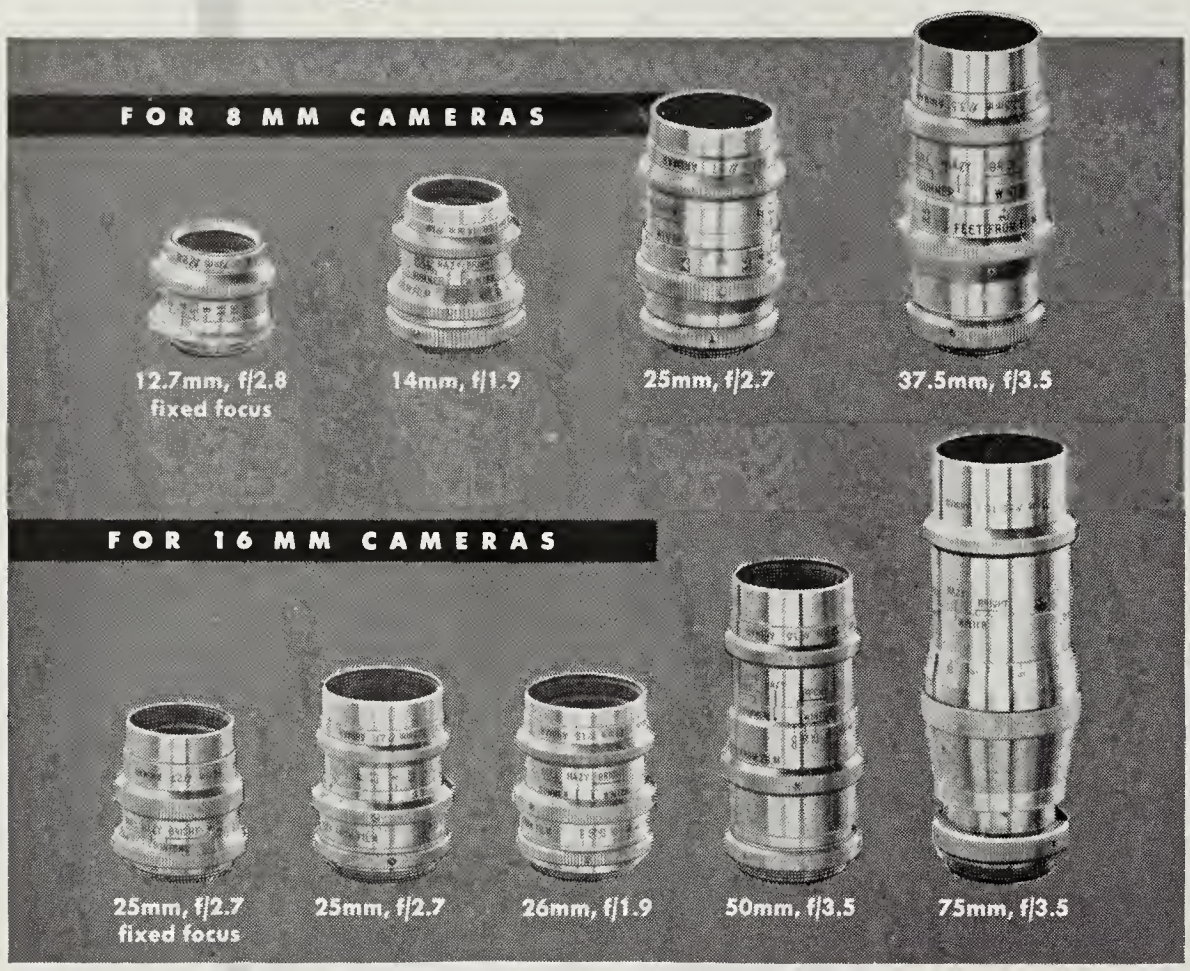
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BAUSCH & LOMB
8mm and 16mm
ANIMAR LENSES

The Hollywood Closeup

By JOHN ALTON, A.S.C.

Reprinted from his new book, "Painting With Light," Copyright 1949 by The MacMillan Company.

THE OLD LIKE to look young, the young younger. We have all heard people say they could not have their pictures taken because they were not *photogenic*. This silly obsession has proved to be a fallacy. Just look at the gorgeous close-ups of the stars in Hollywood films. True, most of the stars are really beautiful; but those who are not are made so with the aid of an artistic hairdo, a touch of magic make-up, and the unquestionably hypnotic power of carefully distributed lights and shadows. Not all of us are born beautiful. Good photography can supply what nature has sometimes failed to give us: beauty, charm, good posture.

It is much more difficult to light for movies than for still photography. Therefore, we shall use the former for the purpose of illustration. Movie lighting technique can be applied to any kind of photography. If you can light for movies, you can light, period.

Ages ago, the cave-scratchers made portraits of their favorites. The Egyptians carved them on stone walls. Silhouette invented the making of a likeness that was named after him. Stieglitz, the great American photographic artist, made outstanding portraits long ago; but it took the film industry a long time to invent the motion picture close-up.



FIG. 1 — When composing a closeup, special attention should be given background. There should be no distracting lights or objects "growing out of the head," as in the picture above.

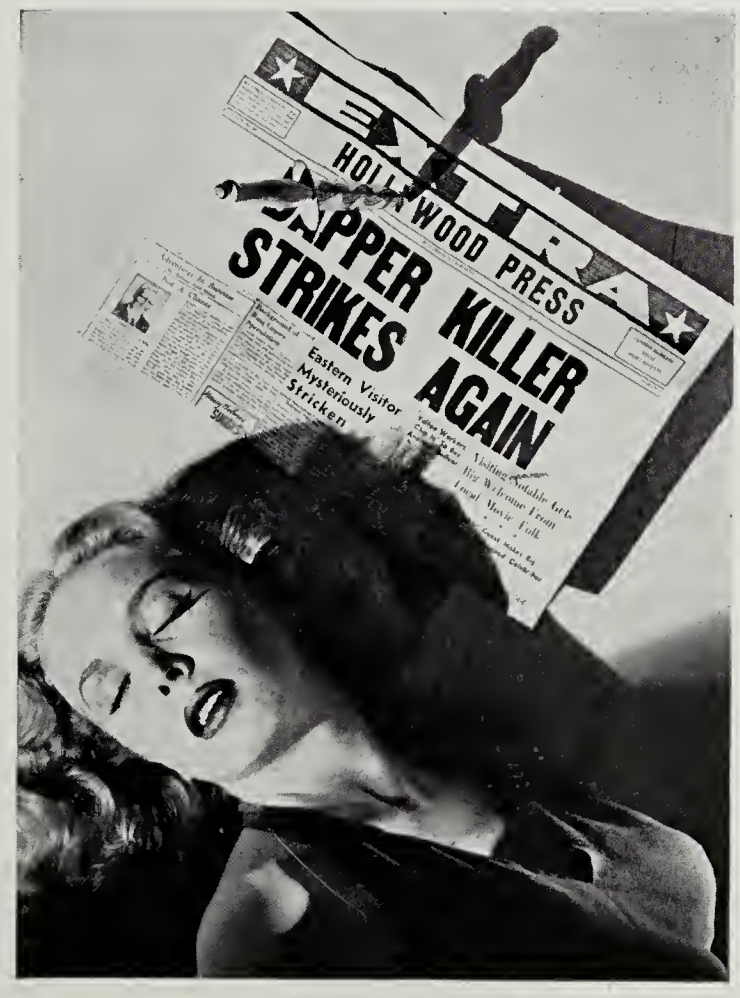


FIG. 2 — A head can be against the side line of the picture when, for example, there is the suggestion of fear or menace behind the player or subject.

For years, action films were photographed from a distance. All you could see on the screen were clouds of dust. While screening such a film, some people suddenly felt that there was something wrong. They wanted to see more of the actors' faces. They ordered retakes with more light poured on them. The result was burned-up, overlit faces, but they were still too far away for facial expression to be appreciated.

It took cinematographers years of heated discussion to prove a simple truth: that in order to make faces distinguishable, it is a mistake to overlight long shots. In life when we want to speak to a person, we approach him. Why not do the same in motion pictures? Seats in theatres are fastened down. When the audience feels the desire to see more of an actor, it cannot possibly move closer to the screen. It is far easier to bring the actor closer to the audience by cutting or dollying to a closer view of him, featuring the face only, where a twitch of a muscle or a wink of an eye can sometimes tell the story. On the legitimate stage, an electromagnetic contact is established between the actor and audience. This cannot be done in motion picture theatres. The best we can do is a one-way transmission of energy from the screen to the audience. Hence the importance of close-ups.

As far as I know, there are no rules or laws for the creation of close-ups or portraits. It takes time, patience, good taste, and a sense of balance. However, if we closely analyze pictures of great masters of light, we find that to illuminate a beautiful close-up, we must observe the following:

1. Angles
2. Size
3. Composition—foreground and background
4. Theme—emphasis on center of interest

(Continued on Page 263)

Cine Clubbers Lend A Hand

Long Beach Movie Amateurs Contribute Photography For Minister's 16mm. Film Promoting Religious Education.

By J. WESLEY NEAL

DID YOU ever see a plumber try to put on plaster? Then you know how I felt recently when the Long Beach, California, Ministerial Union asked me to write a script and help produce a 16mm. film telling the story of Week Day Released Time Religious Education.

There has been a lot of controversy over the question of whether or not this type of religious training is in violation of the Constitution of the United States. The aim of the Ministerial Union was to show, by means of a motion picture, that the California plan is in complete harmony with the laws of our land. Furthermore, inasmuch as Released Time is completely dependent upon voluntary financial support, it was believed that such a film would do much to stimulate contributions.

The first thought of the Ministerial Union was to enlist the aid of some member of the Long Beach Cinema Club to photograph the picture. This club has established an enviable record in the production of prize-winning club films and films for civic organizations, and it is natural for people in this city today to think of this club whenever a 16mm. film is being planned.



DIRECTING scene for "Let Them Come," 16mm. amateur movie production, is J. Wesley Neal (center). Behind the Bolex camera is Earl Everley, Long Beach Cinema Club movie maker. At right is Jack Lloyd, another club member, who assisted with the direction and editing of the picture.



POINTING UP importance of religious education as child delinquency deterrent, "Let Them Come" shows transformation of a boy from habitual truant to good citizen and church-goer.

Earl Everley, one of the club's leading cine photographers, whose production of "The Farmer's Daughter" won an award in a national contest early this year, offered to shoot the picture for us. "I'd be tickled to death to help you out," he said.

And when Everley got that gleam in his eye that most avid cinefilmers get when there's an interesting picture to be filmed, a formidable group of his cine club associates offered to help with the picture, too. When Everley was forced to relinquish the camera, shortly after production started, Jack Lloyd and Leonard Graham, of the Long Beach Cinema Club, carried on with the photography. The assignment injected a new interest in movie making for Graham, who is a busy investment broker. Up until now, he had not been too active in the club because of the press of business. We used his office for one of the scenes and persuaded him to take an acting part. After this, he became so engrossed in the production that he placed his extensive photographic and editing equipment at our disposal which greatly expedited completion of the picture.

I had had considerable experience as a writer-producer for radio but had never so much as seen a movie script. (That

(Continued on Page 253)



About getting that "theater look" into your home movies!

It takes more than a warm, smiling subject to make a good movie sequence.

You need sparkle, brilliance, plenty of contrast. You need what we call that "theater look" of the professionals.

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For this film has the extremely fine grain and sparkling contrast that bring sharp, crisp images to your movie screen . . . images that stand out with snap and brilliance.

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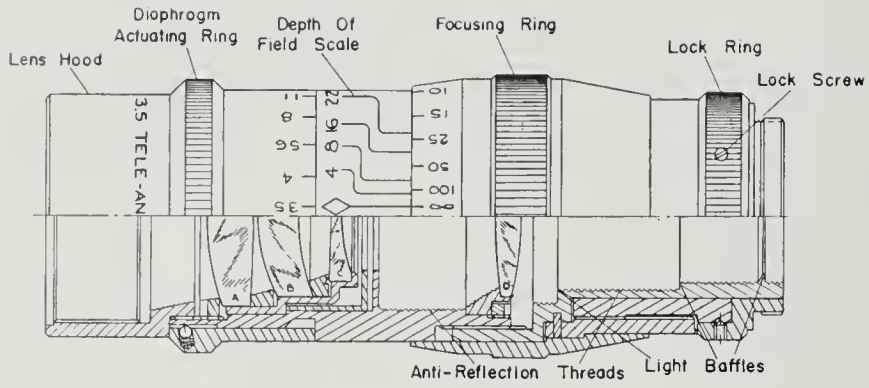


Fig. 1 — 37.5mm. f/3.5 Animar

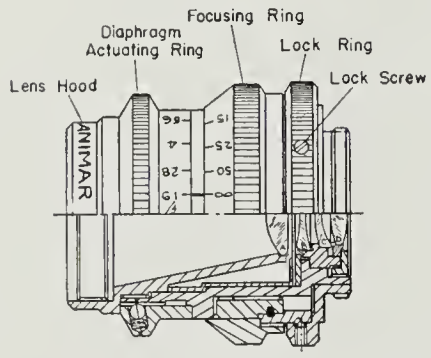


Fig. 2 — 14mm. f/1.9 Animar

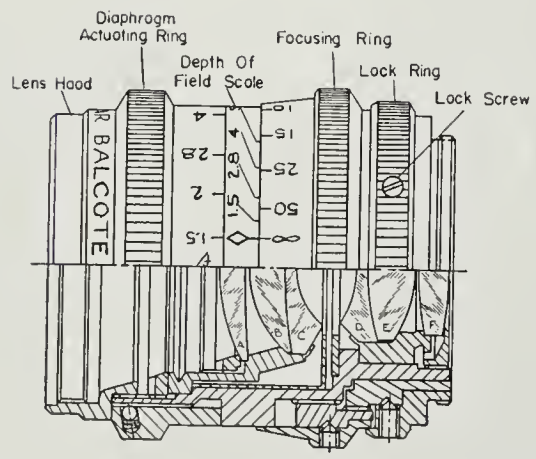


Fig. 3 — 25mm. f/1.5 Animar

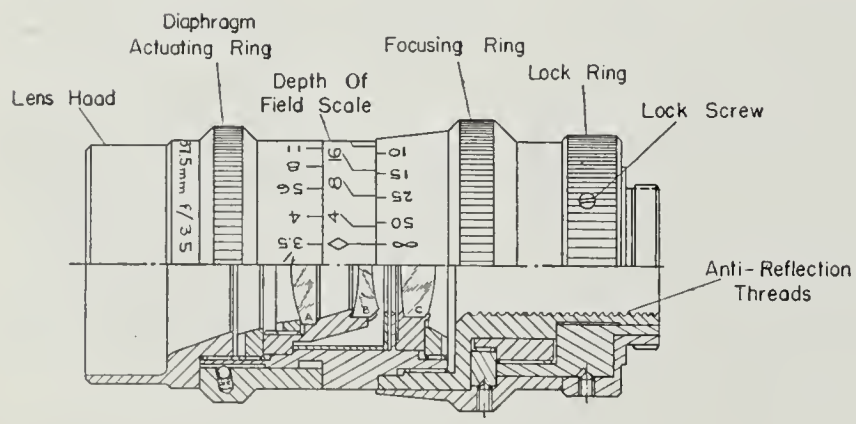


Fig. 4 — 75mm. f/3.5 Tele-Animar

The ANIMARS

A new series of lenses for 8mm. and 16mm. cine cameras

By JOHN D. HAYES and DR. K. PESTRECOV, A.S.C.
Scientific Bureau, Bausch & Lomb Optical Co., Rochester, N.Y.

DURING THE last several years the Bausch & Lomb Optical Company has produced and delivered to the users of eight and sixteen millimeter motion picture cameras large quantities of the 12.7mm. f/2.8, 25mm. f/2.7 and 26mm. f/1.9 Animar lenses. The enthusiastic acceptance of these lenses coupled with the "mushroom-like" growth in popularity of this branch of photography in the semi-professional and amateur fields has provided the impetus for the design of additional Animar lenses. These additional lenses have been designed to fill the ever growing needs of these photographers.

The Animar series of lenses as listed in Table I give the eight millimeter photographer a choice of lenses ranging from the so-called "standard lens" (12.7mm.) to the popularly termed 3X telephoto (37.5mm.). For the sixteen millimeter photographer the variety of lenses ranges from the "wide angle" (15mm.) lens to the 100mm., so-called 4X telephoto. Lenses of speeds as great as f/1.5 are available to the user of either the eight millimeter or the sixteen millimeter camera.

Although the lenses for each camera size were designed specifically for the angular coverage required by that camera, any of the lenses for the sixteen millimeter camera may be used with equally excellent results on any eight millimeter camera. It is necessary, of course, to make use of a threaded conversion adapter to properly mount the sixteen millimeter lens on the eight millimeter camera.

Despite the fact that much of the equipment for eight and sixteen millimeter photography was designed for amateur use with the ultimate cost being one of the principal guiding considerations, this equipment is in many cases of such mechanical excellence, that, when it is properly used, the grain size of the emulsion itself may become the prime limitation of that equipment. It is, therefore, necessary that the Animar lenses to be used on this equipment be extremely well corrected, high quality lenses. In addition, since these Animar lenses are used primarily by the semi-professional and amateur photographer, they should be and are moderately priced.

TABLE I

The Animar Series of Bausch & Lomb Lenses for 8mm. and 16mm. Motion Picture Cameras

FOR 8MM. CAMERAS			FOR 16MM. CAMERAS		
Focal length, mm.	f/ number	Diagonal coverage, degrees*	Focal length, mm.	f/ number	Diagonal coverage, degrees*
12.7	2.8	24.3	15	3.5	43.8
14	1.9	22.1	25	1.5	27.1
15	1.5	20.6	25	2.7	27.1
25	2.7	12.5	26	1.9	26.1
37.5	3.5	8.3	50	3.5	13.7
			75**	3.5	9.2
			100**	3.5	6.9

* Based on the projection aperture.
** Named Tele-Animars.

(Continued on Page 254)



FS-10-N

for sound shows in homes and small auditoriums

FB-40

capable also of showings before sizable audiences

SUPERB OPTICS . . . UNSURPASSED SOUND ★

SOUND KODASCOPE PROJECTORS

Two fine Sound Kodascope Projectors to show your films brilliantly . . . with wonderful detail and clarity . . . with unmatched sound quality and tonal range.

Similar in basic features—like the three detailed below—FS-10-N and FB-40 differ in amplifier output. FS-10-N's Single-Speaker Unit handles 10 watts of power—ample for homes and clubrooms. The Twin-Speaker Unit increases FS-10-N's range—the two 12-inch speakers accommodate its full output . . . and let you show sound films in small auditoriums as well.

If, however, your need is for a projector that provides power sufficient for large auditoriums, too—FB-40 is your outfit. Its 40-watt output—*unequalled by any other portable projector*—makes it ideal for such sound showings. But FB-40's usefulness is by no means limited to auditorium projection. Because any sound reproduction is improved when the amplifier is driven at less than full capacity, FB-40's vast reserve contributes directly to better sound *at all volume levels.*

Plan to see your Kodak dealer soon about these fine projection outfits...Sound Kodascope FS-10-N and FB-40 Projectors.

NOW at new LOW prices . . .

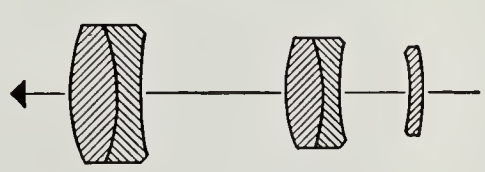
Both projectors supplied with 750-watt lamp, Kodak Projection Ektanon 2-inch f/1.6 Lumenized Lens, complete in two cases:

FS-10-N with Single-Speaker Unit	$345
with Twin-Speaker Unit	395
FB-40 with Twin-Speaker Unit	495

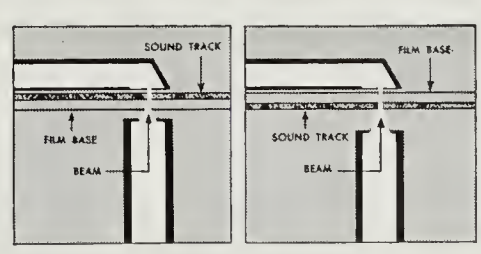
★SOUND KODASCOPE PROJECTORS Give You ALL THREE of These Important Features



FLICKERLESS MOVIES The three-bladed shutter makes a complete revolution every frame . . . produces 72 light interruptions per second at sound speed. As a result, your screenings are free from flicker even at *maximum* brightness—for beyond the five-foot-lambert minimum of acceptability. Here's a truly remarkable safety factor—screenings can have a brightness in excess of a *thousand* foot-lamberts without producing distracting flicker!



OVER-ALL SHARPNESS Integral with the standard f/1.6 projection lens is Kodak's unique field flattener . . . an optical device that serves to correct the curved image normally projected by Petzval-type projection lenses, so that the whole image comes into sharp focus at the same plane. You'll see the result on your screen—unsurpassed uniformity of definition. Your movies are as you like them—sharp in the center . . . sharp in every corner!



TOP TONAL QUALITY The Fidelity Control makes possible reproducing the full tonal scale—especially the hard-to-hold "highs" that are so essential to intelligibility of speech . . . naturalness of music. Whether the emulsion is threaded toward or away from the light beam as in the sketches above...whether you're running originals, 16mm. prints, or reductions from 35mm. film—the Fidelity Control permits easy, accurate focus of the scanning beam.

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KNOWLEDGE PLUS CAMERA — The simplest of cine cameras, in the hands of a photographer with an eye for composition, a knowledge of photographic lighting and a keen pictorial sense, will produce motion pictures of professional quality.

The "Pro" Touch In Amateur Movies

By CHARLES LORING

THE ONLY difference between an amateur motion picture and a professional one, someone has said, is in the photography. Somewhere between the two are films of varying quality, depending upon the knowledge and the skill of the photographer. The serious movie amateur, of course, strives to achieve a professional quality in his photography — the quality he sees in motion pictures on theatre screens.

The first step in this direction is to assume a professional point of view — observing what is professional technique and then setting a similar course for your own filming. Study all the outstanding motion pictures — yes, and even the "quickies" — in order to understand how various photographic problems are handled, how composition is developed and the part careful lighting plays.

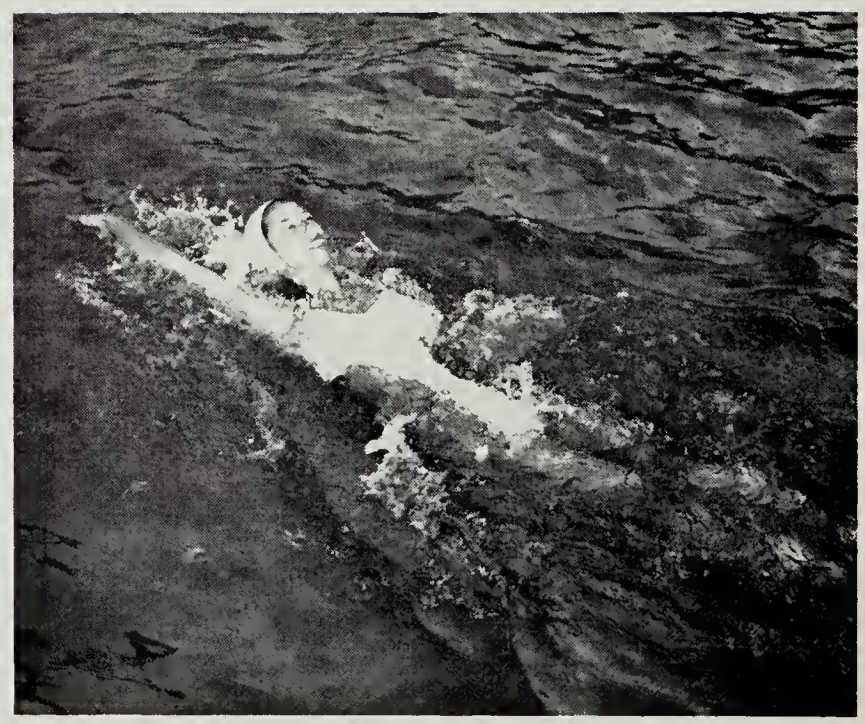
Whether or not your camera is elaborate and expensive is unimportant. The really important thing is *how* it is used. It isn't so much your camera equipment that's responsible for



COMPOSITION—A knack for composition is a must. Had the photographer omitted the tree in left foreground here, scene would lack depth and pictorial interest.



REFLECTORS are essential to good closeup photography out of doors. Use of reflector would have saved this shot by throwing light into deep facial shadows.



FRAMING—Note how careful framing placed figure diagonally in frame, made far more interesting composition than if swimmer were moving horizontally.

the quality of your photography as it is your skill and knowledge, and your ability to apply what you have learned. Just be content to work within the limitations of your equipment, admitting that certain cinematic effects may be impossible to achieve, but still retain the experimental attitude.

So you want your pictures to look more professional. Alright—but you're not going to achieve this overnight. You're going to have to work up to it gradually, just as did the professional cameraman in the early days of his photographic career. First, decide that you are going to aim for improvement in your very next movie making project, that you will handle your camera more professionally—steady and with a minimum of panning; that you will give more advanced thought to composition and lighting, etc. Keep these thoughts in mind and your camera ready.

It may occasionally happen that you'll have time just to grab your camera and get it loaded before shooting some spur-of-the-moment activity. But usually you will know in advance when some event is taking place that you'd like to record on film, and it will pay to plan your shooting so that the resulting film will show a studied approach. Even as simple an activity as a church picnic can make an interesting film if you approach it with originality. Having attended such events before, you will know quite well what to expect, and what will be of cinematic interest.

Prepare a simple script or scene list based on what you think may take place at the picnic, leaving room for on-the-spot coverage of situations you can't anticipate. Make sure to provide the necessary shots so that your locale is properly established and re-established throughout your sequence, and also include plenty of closeups in your plans. Hollywood productions make extensive use of the closeup. There's no better way to draw your audience right into the reality of the situation itself.

When getting down to actually shooting the sequence, concentrate on smoothness of technique. There is nothing that so definitely places a film in the novice class as jerky or unsteady camera handling. There is much to be said for the maneuverability of the hand-held camera in newsreel coverage or in situations where the subject matter would be lost if time were taken to set up a tripod. But whenever the situation permits, a tripod should be used to insure camera steadiness. Similarly, it is advisable to practice panning and tilting the camera so that these two effects can be achieved smoothly when they are necessary. A jerky

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By

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Tips To **AMATEURS** From The ***PROS***

Lighting For Kodachrome

There is an old saying among photographers: "Expose for the shadows; the highlights will take care of themselves." It is an excellent axiom for black-and-white film, but it does not hold true for color. With any color process, the highlights are the troublesome things. If they are over-exposed, they become just a colorless white glare. So in color, the safest rule is to expose for the highlights, and balance the shadows to them.

The matter of shadow-lighting depends to a great extent upon the kind of shadows you want. In any event, don't be afraid of shadows in a color shot. They "make" the picture, even more than they do in black and white.

—Hal Rosson, A.S.C.

Color For Black and White Films

Beautiful color effects can be given black and white cine films through the use of chemical tones and dyes, which are available in a wide variety of colors. Every reader is probably familiar with sepia-toned movie films which are simply black and white films that have been immersed in a sulphide solution, which converts the silver image into a sulphide one and so produces warm, brown tones that are very attractive.

Still other chemicals make it possible to obtain blue, green and copper tones, and these, when judiciously used, add immeasurably to the beauty of any black and white scene. These color effects are so easily obtained, so simple and inexpensive to use, plus the fact that no darkroom is required, that more movie amateurs should explore their use. Many camera stores have simple color tones and tints for use with movie films, that are already compounded and ready for use. They are especially valuable for tinting or toning titles made on black and white film for use with Kodachrome scenes.

—Charles G. Clarke, A.S.C.

Background vs. Foreground Lighting

It is essential for the serious movie amateur to recognize that there are two separate and distinct parts to a pictorial composition as generally photographed for the screen: the background and the foreground. Each is important and each contributes its share to the ensemble's effectiveness. They have a definite relationship and, when properly employed, supplement each other. Lighting, therefore must be done with this well in mind.

Audience interest lies in the actions of your subjects. They must be readily seen. They must stand out against the background, not merge into it and become lost.

—John Arnold, A.S.C.

★ ★ ★

pan or one that is too fast is definitely distracting and unprofessional.

Backgrounds and settings are given a great deal of consideration in the production of the Hollywood studio feature, and camera crews are often sent many miles to photograph action against certain unique backgrounds. These elements are no less important to the amateur cameraman, but he is often handicapped somewhat by not being able to take off on the spur of the moment with cast and crew to do some shooting in far-flung locales. Luckily it is not necessary to travel great distances to find interesting background. In almost every locality there is some spot that is especially scenic or pictorially interesting and which would make a perfect setting for a sequence or story tailored to it. Keep a list of such locales in the vicinity of your home, and work up scripts to take advantage of them.

Since a motion picture cannot be retouched, the studios do all "retouching" in advance through the use of corrective make-up and lighting. The amateur producing a serious film will also find this procedure valuable in correcting certain errors before they are made. Considering the subject of make-up, for example, we all know that if we photograph people exactly as they appear naturally, the result is not always a happy one. If the leading player has a poor complexion, have him or her use a make-up base that will cover blemishes and prevent them from showing up glaringly in closeups. Similarly, it may be to advantage to make some players look younger or older for certain parts they are to play. Some people have features that are so fine or so subtle that they should be accentuated by make-up to prevent their "washing out" on the film. There are several reliable books that fully cover the subject of simple screen make-ups. One manufacturer of cosmetics puts out a small and quite inexpensive kit containing all essentials for basic screen make-up.

If you should chance to see a professional movie company shooting on location, you will observe that they always use reflectors or booster lights on exterior scenes. This is to fill in the shadow areas and prevent the harsh contrast caused by bright sunlight. The movie amateur will find it advisable to make up several portable reflectors that he can use for this purpose, too. Simple but effective reflectors can be made by gluing crinkled florist's silver foil onto plywood boards. The added smoothness of photography made possible through the use of a few reflectors is really amazing.

For interior filming, the amateur movie maker has often been advised to rely on flat lighting, on the premise that it is the most nearly foolproof method of lighting for indoor scenes. However, with the new mushroom type floodlights now available, especially when coupled with portable transformers recently put on the market, it is quite possible for the amateur to set up some nicely modeled lighting that will give his films a more professional finish. Sidelight, backlight and toplight give depth and roundness to a subject, and also help to separate it from the background. Such lighting can now be achieved with a minimum amount of equipment.

The moving camera is another basic studio technique which the amateur may adapt to his own filming with great success. To be able to follow a subject with the camera or to move from long shot to close-up in the same scene immediately, affords the cameraman a greatly enlarged scope. There are small camera dollies on the market which are quite satisfactory when used within their limitations.

Editing and titling provide the finishing touches to every motion picture. In editing, be ruthless in cutting out everything that is not up to your standard of excellence. Cut for variety in camera angle and image size as well as for pace. Do not leave a scene on the screen too long just because it happens to be pretty. Work for smooth transitions between scenes and sequences. In titling, work for ideas that will tie in naturally with the subject and finally, but no less important, provide an effective opening and closing for the film.

CAMERA CRANE

(Continued from Page 242)

lifted up 55 degrees and down 45 degrees. A hydraulic cylinder with a 15-inch extension is mounted in the unit, to give the maximum camera height.

The steering unit is of a special design that permits the crane to be completely turned around in a 6-foot radius and allows it to be placed against a wall with a minimum of maneuvering. A silent motor drive unit is provided, with a control unit that can be operated either remotely or at the crane position. A smooth-acting friction brake insures perfect control of the crane speed. Jacks are included for use when the crane is to be used in a fixed location.

Three models of the Research Council Camera Cranes are now being manufactured and sold by The Houston Corporation, under exclusive license from the Council. (Complete information on these three models, which differ mainly in the equipment and accessories provided, will be supplied upon request to The Houston Corporation, West Los Angeles 25, California – ED.)

CINE CLUBBERS LEND A HAND

(Continued from Page 246)

plumber-plasterer combination, you see.) However, I knew a chap in one of the Hollywood studios, and he loaned me a script for reference purposes. After a few consultations with various members of the Cinema Club, we were able to work out a shooting script. Appropriately enough, considering the nature of our subject, the borrowed script was named, "One Sunday Afternoon."

Our actors were semi-professionals who had helped me considerably on my radio shows. Most of them had full time jobs. This made our shooting schedule something of a problem. If I had it to do over, I would spend a lot of time determining a shooting sequence which would work less of a hardship on those who had to sandwich their acting in between the requirements of their work. My boy, who played the lead, received courteous permission from his principal to cut a few classes. Incidentally, the film concerns a delinquent boy who was always playing hooky.

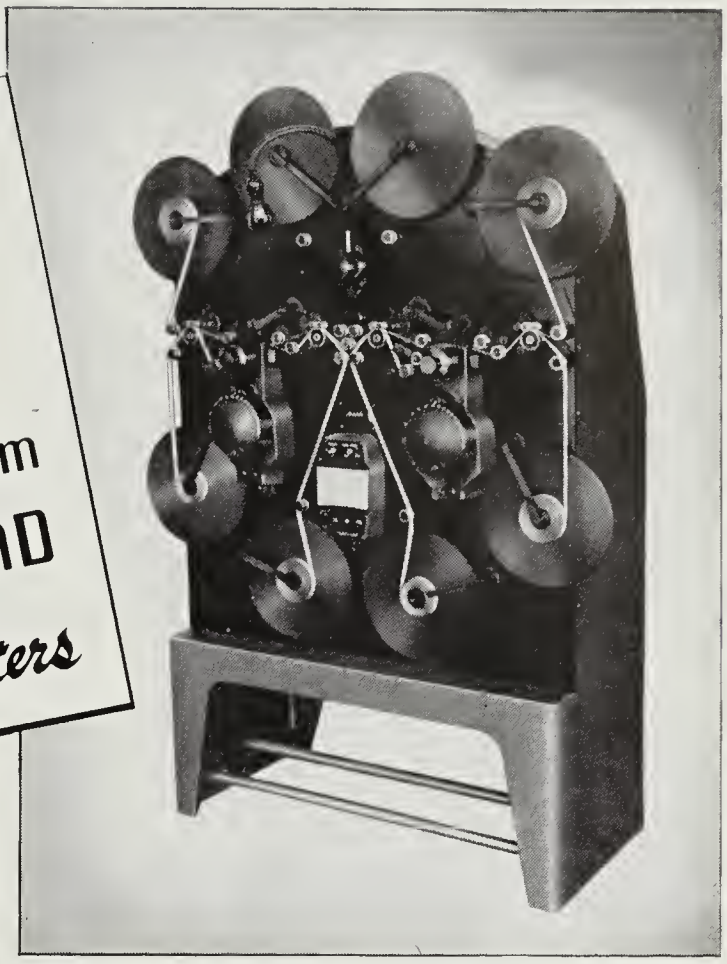
Except for re-takes, the entire production was shot in approximately three days. I think we could have even beat that time had I planned a more efficient shooting schedule. Re-takes were few but could have been reduced had we observed one or two basic rules. One scene was shot in a living room which has a large, bay window. The scene was supposed to be evening but we were shooting in the middle of the afternoon, with a mixture of daylight and artificial light. The result was that the scene lacked true color values — we were shooting Kodachrome — so we re-shot it at night, using photofloods for lighting.

I still don't know how to plan for the vagaries of the weather. Our cast was impatiently stewing around waiting to shoot the final scene of the picture— an exterior. Our famous California fog was most uncooperative. Then, when we were just about to give up, the sun came out for just forty-five minutes — long enough to enable us to shoot the scene and wind up the picture.

After editing of the picture was completed to suit us, we then took it to a commercial sound studio in Hollywood to have the sound recorded and dubbed in. We knew that our film was much longer than the standard "one reel," but we were convinced that it was cut to the minimum.

The sound man mounted our masterpiece on his editing machine and promptly began to snip a frame here and there. "Wait a minute," I cried, "you're ruining the film we love!"

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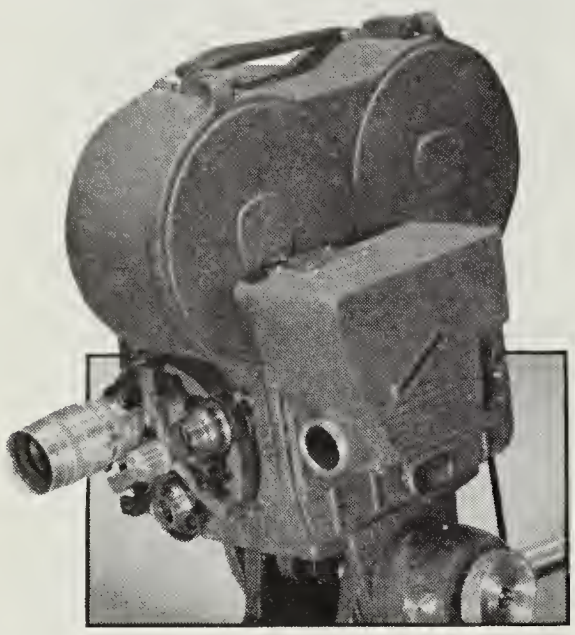
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"Wait and see," he replied with perfect calm. We waited. Soon we saw another hundred feet of our labors littering the cutting room floor. Then our "friend," the sound man, proceeded to project the film for us. What we saw amazed us. The film had been tightened up and strengthened a great deal by his dexterous cutting. Which proves: that any film can be helped by an impartial editing by a person skilled in that work.

Timing the narration for dubbing in the sound presented something of a problem. We found the best procedure is to measure each scene accurately. Then we converted the number of frames to seconds. I wrote narration for each scene, figuring three words per second. The narration was not tight — that is, every scene was not absolutely full of narration. This allowed for some leeway in synchronization and made for a more interesting film. Too much yakity yak is undesirable.

The film's scenario was written with the idea of the narration and the action complementing each other. Thus I endeavored to make sure that the narration did not describe anything which the action plainly indicated and vice-versa. We checked this when we viewed the film without the sound and listened to the sound track without the picture. Each was definitely incomplete. In a film of this type, where a great deal of propaganda and teaching of facts are incorporated, the narration is best thought of as the pill and the movie as the sugar coat that makes the pill easy to swallow.

We went to the sound studio with our script carefully timed and dubbed in the narration. According to the sound engineer, the narration worked out fine. What pleased us most of all, however, was a statement by the man who dubbed in the sound. He said, "Your script has been timed out as good or better than any we have ever done."

There were about ten seconds of lip synchronization at the end of the film, where the Boy makes an appeal for support for the Released Time program. We had this done in the studio the day we dubbed in the sound. The quality and perfect synchronization which resulted justified the expenditure.

We took the name for the film, "Let Them Come" from the Revised Standard Version's translation of Mark 10:14 which appears over the door of a church which figured in the picture.

The finished film had its premiere showing before members of the Long Beach Ministerial Union. There was unanimous agreement that it would accomplish our purpose in producing it—to acquaint citizens of the community with the aims and accomplishments of Week Day Released Time Religious Education. Those of us who helped in producing the picture trust that this pioneer venture in a new field of religious work will open the way to the production of other films with a similar purpose. The modest production cost—it was only $299.96 for our one reel 16mm. Kodachrome film—certainly should not prove an insurmountable obstacle.

THE ANIMARS

(Continued from Page 248)

In the design and manufacture of any photographic lens system a fair percentage of the purchase price of that lens may be directly attributed to the number of optical elements in the system. It is reasonable to assume that a lens of six elements will cost more than a lens of two elements, factors such as speed, coverage, focal length, etc., being equal, although the cost is not necessarily directly proportional to the number of elements.

It is extremely fortunate from a cost standpoint that in most cases of eight and sixteen millimeter motion picture photography only moderate angular coverages and speeds are required. For example, the standard lenses on most of the semi-professional and amateur cameras on the market at the present time are of speeds in the neighborhood of f/2.8 and angular coverages of about 27°. For this speed and coverage extremely well corrected triplet type lenses have been designed for use in the Animar series. The basic formula utilized in this design is covered by U. S. Patent No. 2,453,260 granted to K. Pestrecov in November, 1948. Modifications of this formula have been used for construction of the 12.7mm. f/2.8, 25mm. f/2.7 and 37.5mm. f/3.5 Animars in the eight millimeter series, and of the 25mm. f/2.7 and 50mm. f/3.5 Animars in the sixteen millimeter series. Typical of these lenses is the 37.5mm., a cutaway view of which is seen in Figure 1.

While this triplet type of lens can be expected to give very excellent results when used at speeds and coverages of about f/2.7 and 27° respectively, its speed or coverage cannot be increased much beyond these values without sacrificing unduly the image quality. Disregarding such special systems as those employing reflective components, it is

generally necessary to utilize at least four optical elements in a lens system to obtain a high degree of correction at speeds as great as f/1.9 and at coverages of 25° to 30°. In the Animar series the f/1.9 lenses are of the well known "quadruplet" type; a cutaway view of the 14mm. f/1.9 is seen in Figure 2.

In the past this "quadruplet" type of lens has often been found to suffer severely from focus shift with aperture change. In the Animar design this has been eliminated by overcorrecting the marginal spherical aberration somewhat. The zonal spherical aberration has at the same time been reduced to a value approaching the Rayleigh-Conrady limit.

In choosing the "Tessar" type lens for the "wide angle" lens (15mm. f/3.5 Animar for sixteen millimeter cameras), careful consideration was given to the ratio of the corner-to-center illumination in the image plane, at the same time maintaining a high degree of correction at the margin of the field. The design of this lens is almost unique in that the illumination ratio is considerably higher than that expected from the ordinary Tessar constructions. The coma correction has been held within the Rayleigh-Conrady practical limit for extremely sharp definition to the near margin of the field. The correction of both the tangential and sagittal curvatures of this lens is well within these tolerances, giving an extremely flat field.

For the f/1.5 Animars the "Gaussian" type of lens system has been chosen. This type of lens system is represented by the well known Baltar and Biotar lenses whose excellent characteristics are well known and highly respected. Shown in cutaway is the 25mm. f/1.5 Animar. See Figure 3.

When the specifications for the 75mm. and 100mm. Tele-Animar lenses were considered, it was agreed that, because of the need for keeping the lens mounts within a convenient size, it was desirable to use a highly corrected telephoto lens system, (i.e., a system with a back focus in the neighborhood of one-half the focal length). Such a lens system was found to exist in the "split-front triplet" type of objective. Compound modifications of an early prototype of this type are the well known Sonnar lenses. In the design of the Tele-Animars it was found that this "split-front triplet" type of lens offered definite and distinct advantages over the simple triplet form when lenses of longer focal lengths are needed. Not the least of these advantages is the extremely high degree of coma and spherical aberration correction, as well as the very favorable correction of astigmatism and curvature of field. Figure 4 is a cutaway of the 75mm. f/3.5 Tele-Animar.

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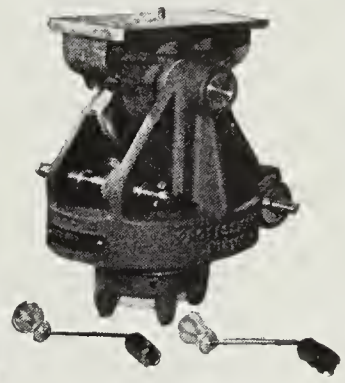
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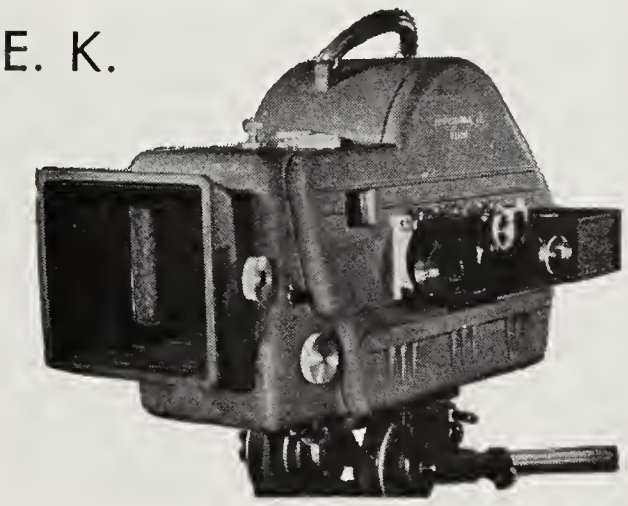
GEAR DRIVE

The head, made of Dow Metal magnesium, weighs but 5½ lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap-on metal cranks control pan and tilt action from both sides. Worm-driven gears are Gov't spec. bronze.

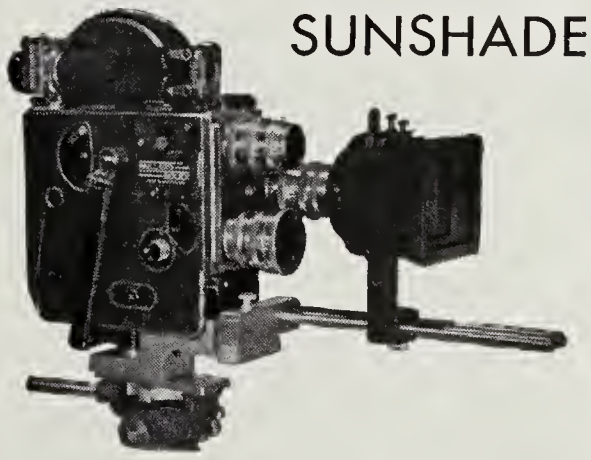


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The excellence of the Animar lenses is readily seen by a comparison of the representative residual aberrations of these lenses with the limits of the various aberrations as given by the Rayleigh-Conrady tolerances. The basis for these tolerances was established in 1878 by Lord Rayleigh when he advanced his famous "Quarter Wave Theorem." The limits of the various aberrations based on this theorem are so small and difficult to achieve in optical design that lens designers generally do not hesitate to accept values of residual aberrations several times in excess of the values derived from the Rayleigh-Conrady tolerances. As a matter of fact these limits are so severe that Conrady himself has established less strict limits for such aberrations as OSC, coma, curvature, and astigmatism.

For his less strict tolerances Conrady has set up three classifications, namely: extremely sharp definition, good definition, and definitely soft definition. In Table II in which the residual aberrations of representative Animars are compared with the Rayleigh-Conrady tolerances, the extremely sharp definition of Conrady's less strict tolerances has been termed the practical limit as differentiated from the strict Rayleigh-Conrady limits.

In the design of an optical system, whether it is a motion picture lens system or some other type of lens system, the choice and use of the optical glasses in that system largely determine the degree of color correction of the system. There is no "magic" procedure that can be applied to obtain a "superior" color correction since the limitations of color correction are of a basic nature. However, there is available today such a variety of optical glasses of various characteristics that the designer can generally color correct his lens without any serious difficulties. Every care and precaution has been taken in the design and manufacture of the Animar lenses to assure that the wisest possible choice of optical glasses has been made, resulting in the extremely good color correction of these lenses.

In the design of the mechanical mount for a photographic lens, as with the design of any other mechanical product, consideration must be given to the ultimate use of that product. In the case of the Animar series of lenses, which are to be used largely by semi-professional and amateur photographers, considerable thought was given to the needs of these two types of users and to the means of filling those needs.

No general breakdown as to the class of the user and the mechanical features he will most appreciate can be given. It can be noted, however, that the amateur taking his first pictures will find of extreme value the built-in exposure index on these lenses. The proper use of this index with the daylight type of color film (A.S.A. exposure index 10) will give satisfactorily exposed pictures under conditions of lighting varying from Dull to Bright at any season of the year.

The critical photographers who want to know the range of focus at any given object distance and aperture stop will greatly appreciate the depth of field scale which appears on most of the lenses of this series. For distinction, the aperture and focusing index is filled black; the depth of field scale is filled refractor orange.

All photographers will make use of the click stops of the aperture scale which enables them to vary the aperture setting by counting the clicks. For example changing from f/4 to f/5.6 is one click, to f/8 is two clicks and so forth. This eliminates the necessity of checking visually every change of the diaphragm position.

Perhaps the first mechanical feature of the lenses that the photographer will use is the orientation feature, which permits the user to place the lens on the camera and position the engraving to his liking. This is accomplished very simply by loosening the three lock screws in the lock ring, that ring nearest the camera, and turning the lens in a clockwise direction until the engraving is desirably located. The lens is then secured in place by tightening these three screws.

TABLE II

Residual Aberrations of the Animar Lenses Compared with Rayleigh-Conrady Tolerances

	12.7mm. f/2.8 Animar		15mm f/1.5 Animar		75mm. f/3.5 Tele-Animar	
Aberrations	R-C Tolerances	Residual Aberrations*	R-C Tolerances	Residual Aberrations*	R-C Tolerances	Residual Aberrations
Marginal Spherical	0.08mm.	+0.01mm.	0.02mm.	—0.03mm.	0.12mm.	+0.05mm.
Zonal Spherical	0.11mm.	—0.09mm.	0.03mm.	—0.06mm.	0.17mm.	—0.05mm.
OSC: strict	0.06%		0.03%		0.04%	
practical**	0.25%	0.01%	0.25%	0.14%	0.25%	0.13%
Comatic Patch strict	0.005mm.		0.003mm.		0.006mm.	
practical**	0.025mm.	0.008mm.	0.025mm.	0.047mm.	0.025mm.	0.013mm.
Curvature strict	0.01mm.		0.003mm.		0.01mm.	
practical**	0.14mm.	T—0.05mm. S—0.09mm.	0.08mm.	T—0.02mm. S—0.04mm.	0.18mm.	T+0.04mm. S—0.06mm.

* Maximum values within the intended field of coverage.
** Based on Conrady's criterion for extremely sharp definition.

TABLE III

Mechanical and Optical Features of the Animar Lenses

Lens Identification	Number of Elements	Balcote Surfaces	Maximum Aperture	Minimum Aperture	Click Stops	Exposure Guide	Focusing Scale	Nearest Distance	Depth of Field Scale	Circle of Confusion*	Orientation	Slip on Filter Adapter**	Screw-in Filter Adapters**
ANIMARS FOR 8mm. CAMERAS													
12.7mm.f/2.8	3	Yes	f/2.8	f/16	Yes	Yes	No	—	No	—	No	18mm,	None
14mm.f/1.9	4	Yes	f/1.9	f/22	Yes	Yes	Yes	2 ft.	No	—	Yes	18mm,	None
15mm.f/1.5	6	Yes	f/1.5	f/22	Yes	No	Yes	1½ ft.	Yes	0.0005"	Yes	23.5mm.	None
25mm.f/2.7	3	Yes	f/2.7	f/16	Yes	Yes	Yes	2 ft.	Yes	0.0005"	Yes	23.5mm.	None
37.5mm.f/3.5	3	Yes	f/3.5	f/22	Yes	Yes	Yes	2 ft.	Yes	0.0005"	Yes	23.5mm.	None
ANIMARS FOR 16mm. CAMERAS													
15mm.f/3.5	4	Yes	f/3.5	f/22	Yes	Yes	Yes	6 in.	No	—	Yes	28.5mm.	None
25mm.f/1.5	6	Yes	f/1.5	f/22	Yes	Yes	Yes	1½ ft.	Yes	0.0010"	Yes	28.5mm.	1.0433x36
25mm.f/2.7	3	Yes	f/2.7	f/16	Yes	Yes	No	—	No	—	No	25.5mm.	0.9252x36
26mm.f/1.9	4	Yes	f/1.9	f/16	Yes	Yes	Yes	2 ft.	No	—	Yes	28.5mm.	1.0433x36
50mm.f/3.5	3	Yes	f/3.5	f/22	Yes	Yes	Yes	2 ft.	Yes	0.0010"	Yes	28.5mm.	1.0433x36
75mm.f/3.5	4	Yes	f/3.5	f/22	Yes	Yes	Yes	3 ft.	Yes	0.0015"	Yes	31.5mm.	1.1024x36
100mm.f/3.5	4	Yes	f/3.5	f/22	Yes	Yes	Yes	3 ft.	Yes	0.0020"	Yes	35mm.	1.2796x36

* Used in designing the depth of field scale.

** Not supplied by Bausch & Lomb, but are commercially available.

The mounting dimensions of the Animar lenses was chosen in accordance with the American Standard Association recommendation; namely, a mounting thread of 0.625" x 32TPI for the eight millimeter camera lenses with a registration distance of 0.484". For the sixteen millimeter camera lenses the thread is a 1.000" x 32TPI and the registration distance is 0.690".

All the air-glass surfaces of these lenses have been given the Balcote, ultra hard anti-reflection coating.

Many users will find other mechanical and optical features of these lenses of particular value to them. A list of the features and the lenses on which they are to be found is given in Table III.

The lenses of this Animar series answer most of the needs of the semi-professional and amateur photographer; however, additional lenses will from time to time be added to the series to even more completely fill the needs of these photographers. The lenses in the 16mm. series are also eminently suitable for professional 16mm. photography.

NEW COLOR FILM

(Continued from Page 240)

Subsequently, the problem of getting non-migratory color formers was approached by different workers in several ways:

(1) Color formers have been made which seem to adhere to gelatin as certain dyes do to textile fibers.

(2) Migratory color formers have been chemically combined with long chain or complex ring structures which give giant molecules too big to wander through the gelatin structure of the emulsion layer.

(3) Color formers have been made non-migratory by incorporating them in a colloid (a resin or gum) and then dispersing the colloid in the emulsion into very small particles.

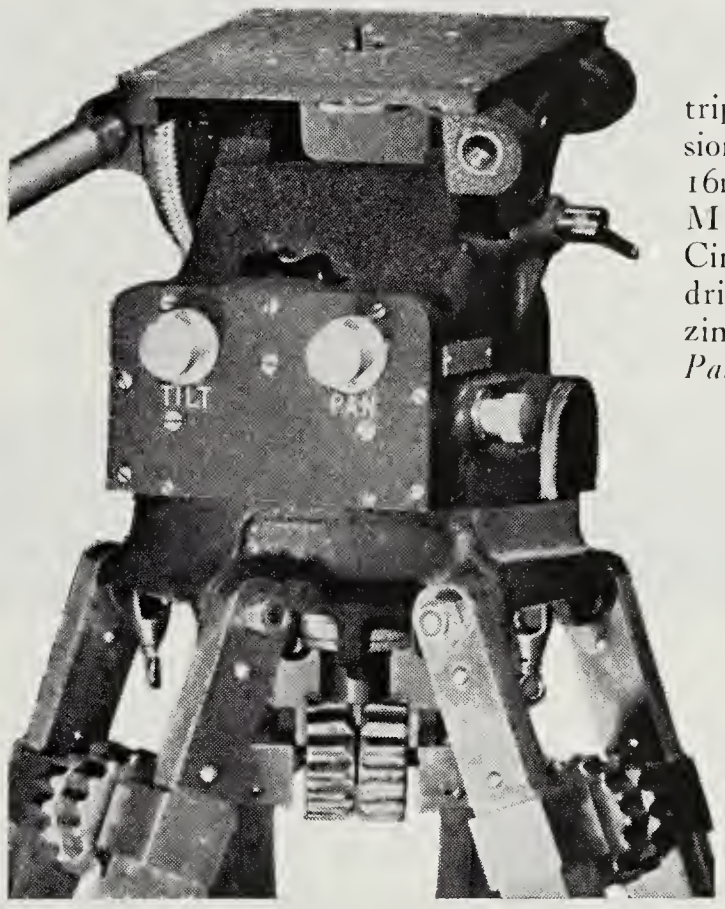
Thus in all previous approaches to the problem emulsion layers for color-forming development have contained at least three components—gelatin, silver halide and color former. In the release positive worked out by du Pont only two components are employed—silver halide and a synthetic polymer which plays the role of both the gelatin and the color former previously used.

It was logical for du Pont with wide experience in producing such polymers as nylon, neoprene and polythene, to undertake the synthesis of dual-role polymers for color photography. Three different polymers have been made for the present film. Each one contains an ap-

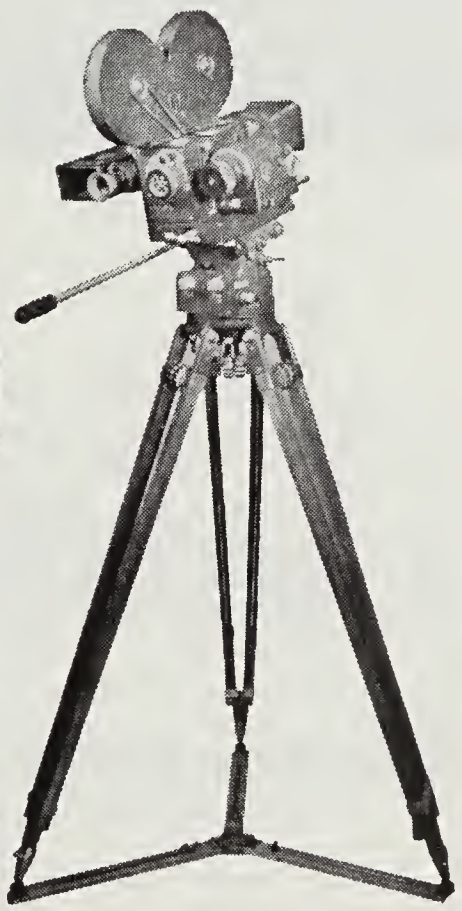
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propriate dye-generator as a part of the complex polymer molecule. Furthermore, these polymers exhibit properties which are superior to gelatin in many respects.

It has been argued that a slight solubility of the color former in water was essential in order to bring about the dye-coupling reaction during development, and that the migration of a soluble color former had to be prevented by means such as those referred to above. In the new conception presented by du Pont, the color generator only swells in the processing solutions. There are no problems whatsoever of migration or solubility. When the polymer is swollen the color-generator, though locked in the polymer molecule, remains highly reactive with the oxidation product of the developer. Positive emulsions made with these polymers are characterized by a high dye-generating efficiency and sharp definition of image.

The layer arrangement in du Pont color release positive departs from the order commonly used by monopack producers, as shown in the diagram, Fig. 1.

Such an arrangement is permissible because the printing is done on a registration printer and any one of the three separation negatives can be directed into the appropriate layer by the proper selection of printing light. The particular arrangement above permits optimum quality in that the least important record from the standpoint of definition, the yellow, is placed in the bottom layer where diffusion effects caused by printing through the two emulsion layers are least noticeable.

The du Pont layer arrangement suggests the use of a dye sound track and a blue-sensitive photocell for reproducing sound. A track in magenta, which gives good response to a blue cell, can be confined to the outer layer to get the advantage of sharp definition. But since blue cells are not a part of the present theater equipment, a silver-plus-dye track is recommended, and this can be obtained by several known methods, such as preventing the bleaching of the sound track area or by redeveloping or sulfiding the track after bleach.

The color release positive film, although yielding acceptable results with separation negatives made from 35mm. and 16mm. color originals, will give maximum quality with black and white separations made in a split-beam camera or by other means capable of giving black and white originals.

Eastman Kodak Company has announced important price reductions on a number of popular cameras and movie projectors.

PHOTO BACKGROUNDS

(Continued from Page 240)

a minimum of grain. Secret of the improved detail and contrast noted when Paul's backgrounds are used in motion picture lies in their translucency. Rendition appears perfect to the eye, but when light is projected through the background from the rear, it "comes to life," to quote Mr. Paul. Actually the difference between Paul's translucent backgrounds and the old type, multi-section opaque backgrounds is quite marked.

Perhaps the most important feature of these backgrounds is their adaptability to color productions as well as black and white. After each background has been exposed and developed out, oil colors are sprayed on the back of the picture. This is a carefully executed job of hand decorating which gives the appearance of a natural color photo when it is lighted from the rear.

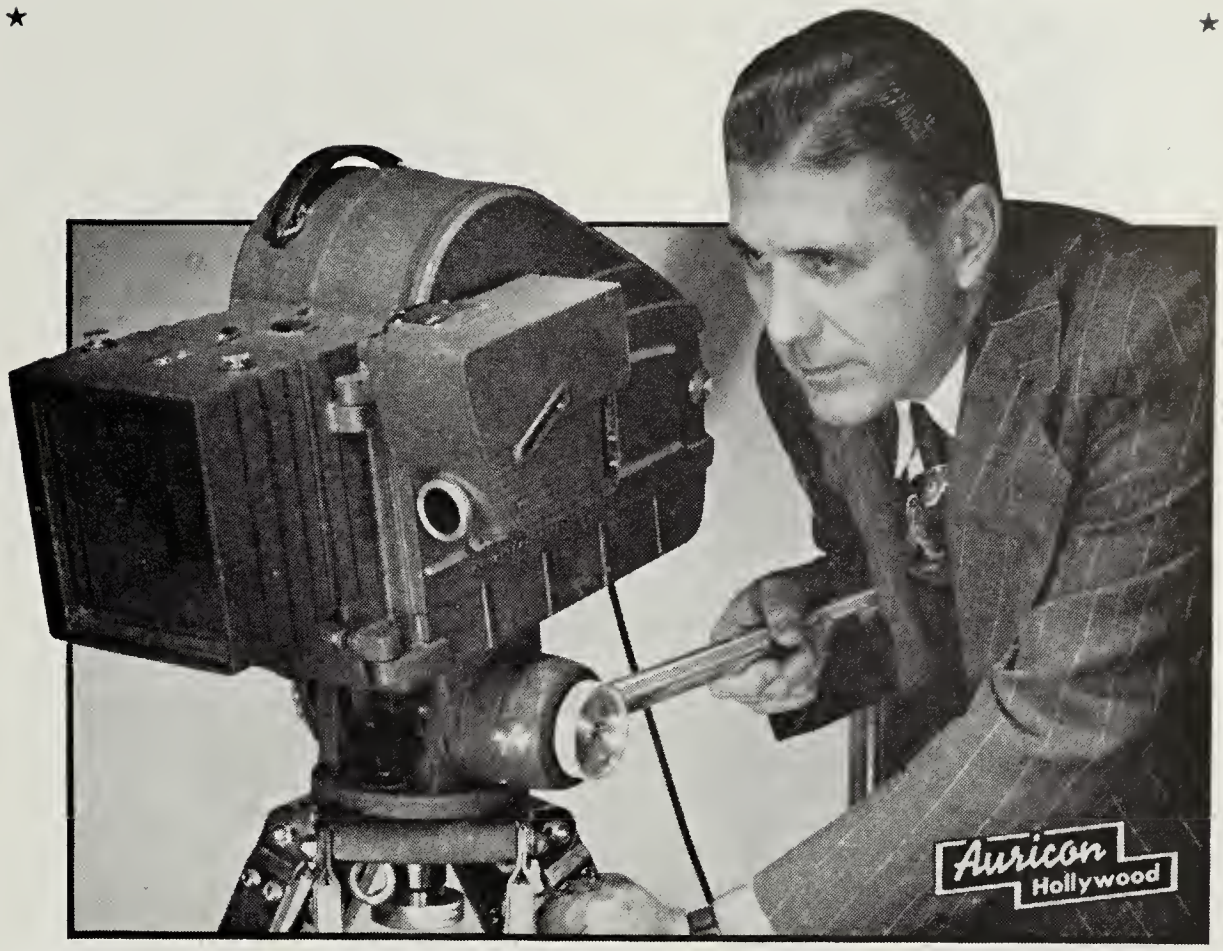
When used on the set, the backgrounds are usually lit from both the rear and the front. Two methods of lighting have been found satisfactory for lighting from the rear — either direct lighting from incandescent or arc lamps, or reflected light. In the latter method, the picture is backdropped by a huge white cloth. Lights directed upon this cloth, reflect a diffused light of ample volume toward the background picture. This is the method that was used on the *Champion* set mentioned earlier, and illustrated in one of the accompanying photos.

By using either front lighting or reflected lighting from the rear, the background serves as either a day or night backdrop. Where the scene comprises a skyline picture including a number of skyscrapers and other buildings, realistic night effects are created by applying a matt in back of the background with areas representing windows of buildings cut out to allow bright light to show through.

Paul's backgrounds require a minimum of care in handling and take up less space in storage than other types of backgrounds, because they can be rolled up without causing wrinkles or cracking in the picture surface.

Paul's friends know him simply as "M.B." — the tag he has been known by for years. In the photographic business for the past 26 years, Paul got his start as an apprentice to the late Robert Schueler, renowned portrait painter and photographer who was one of the country's leading camera artists at the turn of the century. It was while in Scheuler's employ that Paul learned how to make emulsions and coat materials with them.

Coming to Hollywood years ago, Paul



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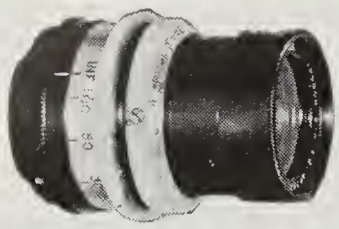
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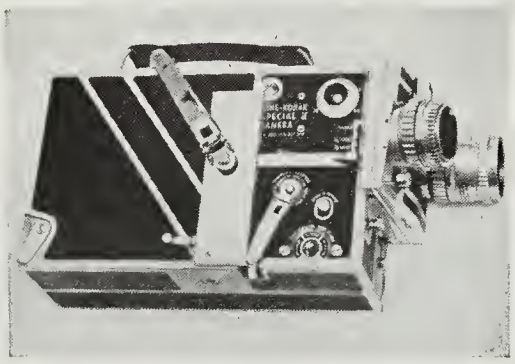
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did still photography at CBS, started a film test business in 1934, then went to M.G.M. as a portrait photographer. Later he spent 7 years as portrait and poster art photographer at Columbia Pictures. It was during his tenure with the studios that Paul learned of their needs for more durable and practical photo backgrounds. Chief complaint of the studios was the ill-matched sections of the opaque murals used at the time and the storage problem. Recognizing the need for a one-piece, translucent and highly flexible medium for such picture enlargements, Paul proceeded with research that led to development of his present secret process.

Now, he thinks, he has the answer to every studio's background problem. Studios can either buy or rent his photo backgrounds. Already, production demands have outgrown his present two-story quarters, and Paul is presently drawing plans for a new and modern building to house his business that will feature the latest type scene production docks and elevators for use of painters and finishers while working on the giant photo enlargements. Where at present Paul is limited to turning out photo backgrounds beyond 20 feet in width, the new plant will permit the production of backgrounds 45 to 60 feet in width. Studios, of course, already have found economy in Paul's one-piece, translucent day-and-night color backgrounds through the time and money saved in set lighting and the savings they afford in set construction.

INDIA'S MOVIE INDUSTRY

(Continued from Page 237)

than one quarter of the amount of electrical equipment customarily employed here. Sets, more often than not, are not too cleverly built, so it's up to the cameraman to "do it with lights." He has at his disposal very few or none of the various helpful adjuncts which we take for granted, such as dimmers, century stands, adequate nets and scrims, adjustable goboes, adjustable hangers, etc., but has to improvise substitutes as he goes along. The lighting units most generally employed are juniors and baby juniors. Seniors are very popular, but since 5kw globes cost around $125.00 on the black market, there aren't many of them in use.

The Indian cameraman keeps abreast of all the latest ideas in the way of meters, filters, handbooks, and the like, but aside from the difficulty of obtaining such helpful items, they are very expensive for him. Another serious handicap there is the present status of the Indian laboratories; the work is comparatively poor in quality, with the old rack-and-tank technique being used in most cases, and not too skilfully. There is one notable exception, however; in Bombay the Bengal Film Laboratories are being operated by the Mehta Brothers, one of whom was for three years or so associated with the old Rothacker-Aller organization in the U.S.

They are using machine development, and the entire plant is operated on a strictly modern and scientific basis, using sensitometric control throughout, with full air conditioning, even to the storage vaults.

Needless to say they are extremely busy, usually running three shifts. Probably the greatest problem confronting the cameraman of India is, however, the raw stock situation. Whatever the reason, the procurement of a sufficient quantity of film for a picture is a difficult and sometimes expensive procedure. It is not at all uncommon for a cameraman to use, in the same production, stock from several different manufacturers.

We here in our comparatively lush studio facilities are prone to object most strenuously when we are forced to change emulsion numbers during a picture. Our Indian contemporary thinks nothing of intermixing Harrow (British Kodak), Rochester, DuPont, Gaevert, and perhaps a dash of Fuji (a postwar Japanese product, and not half bad, either). How he manages to maintain a semblance of uniformity, particularly when the ages of the various stocks are sometimes doubtful, I can't imagine, but he does amazingly well in that line.

Perhaps one reason is because he is not averse to making a hand test when changing from one stock to another. In fact, many of our top-flight men would find no little difficulty in delivering the same excellent quality working under the same unfavorable conditions.

The leading cameramen of India are a hard-working progressive lot, and are ever alert to new and improved ideas. Naturally they look to ASC members as leaders in the craft, and are fully cognizant of the changes and advancement in the art as exemplified by them. More than that, most of them have their individual favorites among the contemporary men here, whose work they follow in detail by means of the trade publications, most of them having access to *The American Cinematographer*. One cameraman in Bombay assured me that he has a complete file of our magazine, from the very first issue.

An interesting slant on the Indian's eagerness to keep abreast of the times is that there is a group which makes it a regular practice to attend the opening

night of each new American picture, when possible. If the picture appeals to them from a photographic viewpoint, they return another time with cameras and photograph certain selected portions of the picture on the screen. The shots are later enlarged, studied and discussed in detail by the group.

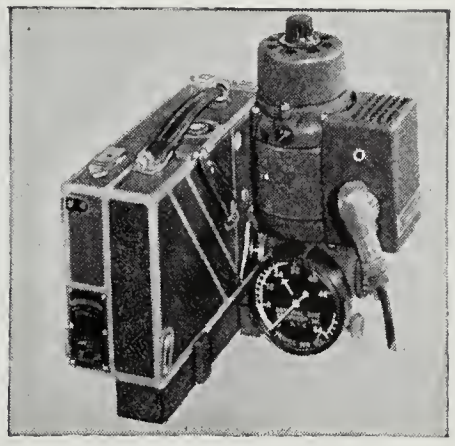
They make no attempt at direct imitation, but by this means compare the work of different individuals, and decide for themselves the most effective treatment for a given subject. The work of our leading cameramen is entirely familiar to them, and almost without exception, any of the leading cameramen of India can say with entire certainty who photographed what picture, and when.

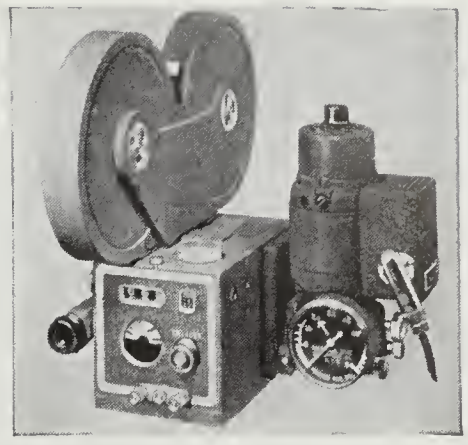
Sound recording technique in India is extremely well advanced, and the engineers and technicians in that department are doing a splendid job; they are making great progress in re-recording and dubbing, and are constantly on the alert for new methods and improvements.

All of the principal manufacturers of studio equipment are well represented there: Bell & Howell, Mitchell, Mole-Richardson, RCA, Fearless, etc., with the prices on everything about 50% higher than here.

The electrical situation in the studios is considerably below par; there are no generators, hence no arcs. AC is supplied from the regular city mains, and in some localities each studio is limited to a maximum consumption of 75kw.

Studios themselves are somewhat smaller in scope than those with which we are familiar, but generally they are quite adequate and competently staffed. Most of the stages, which they term "floors," are not completely soundproofed but this is not often a detriment. In most instances the studios are located in re-





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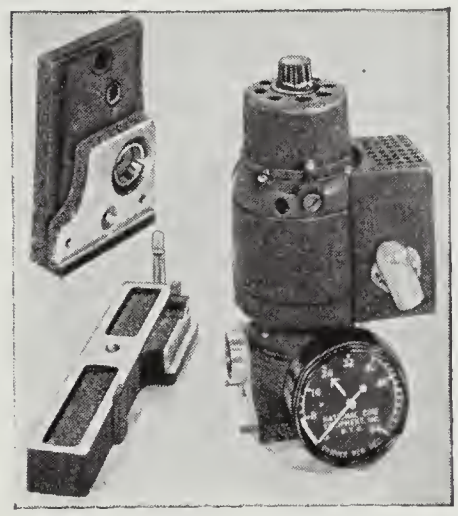
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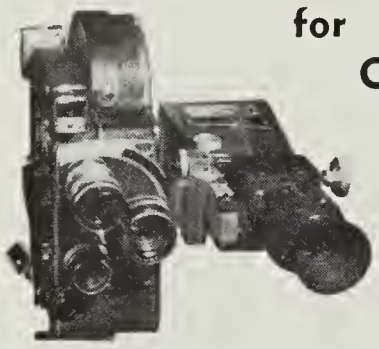
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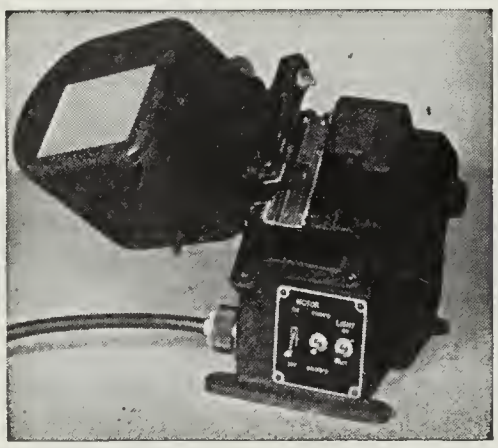
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mote sections of the city where traffic noise and other sound problems are at a minimum.

American pictures are extremely well received by the audiences of India, both native and European; preference is shown for westerns, musicals, and other varieties of purely entertaining subjects. Native audiences, particularly in the neighborhood houses, prefer the Indian made pictures, and the length of runs of favorite subjects is amazing; the better pictures often play from three to six months in the larger cities.

Indian audiences have a very definite preference as to the makeup of their pictures—so much so that all pictures there adhere to a technique which is so standard that it is almost a formula. The first requirement is that the picture be long —usually 12,000 feet. I was told that the average length was formerly greater, but that the government in the interest of conservation has placed that figure as a maximum. Regardless of the subject matter, there must be music in each production. This is done, usually, by the interjection of from four to seven songs or dances at intervals throughout the picture. Also, comedy relief must be supplied, generally being managed by the introduction of a couple of comics who come on the screen at various intervals, sometimes with little or no apparent connection with the story. Despite all of these demands, the Indian theater-goer prefers a story definitely on the sad side, with an unhappy ending if possible.

Pictures are made in the Hindustani language, which is almost a universal tongue, but occasionally versions are made in Kanarese or in some of the other languages. Action is depicted in a rather broad fashion, almost pantomimic, perhaps to help overcome the language difficulties in sections where Hindustani is not well understood.

It is hoped that the foregoing impressions will be accepted as such. No attempt has been made to furnish anything statistical or authoritative, but simply to pass along thoughts which seemed of interest.

Our trip was so pleasant and so productive, both as to friendships formed and results obtained, that we are looking forward with keen anticipation to our return next winter, when we hope to complete the elephant picture. Following this, Oriental-International Films will produce "The River," based on the sensitive novel by Rumer Godden. Renoir will direct and already he has selected Patricia Walters, a 12-year-old English school girl for a leading role, on the basis of tests which I shot while in India.

Plans call for shooting "The River" in Technicolor, and the company already has the cameras, the film, and the laboratory committments from Technicolor's London studios. This means, though, that they must ship special, direct-current generators and other like equipment to India for the production.

A.S.C's. NEW THEATRE

(Continued from Page 239)

& Howell auditorium-type 16mm. sound projector. Its sound system is channelled through the 35 mm. projector sound system and subject to the same remote control in the lounge. Thus the Society is now in position to review the many excellent 16mm. technical, commercial and amateur films at its disposal.

In solving a difficult projection problem, the American Society of Cinematographers has undoubtedly solved a similar problem for others faced with the same obstacles of building codes and fire restrictions. The fact that there is need for a suitable plan to circumvent such obstacles, that there are others in need of 35mm. sound projection facilities as yet unable to obtain them, within reasonable cost, is evidenced by the fact the problem will be dealt with at great length at the next S.M.P.E. convention. Undoubtedly the A.S.C. "theatre" will be studied for the sound suggestions it offers others wishing to provide motion picture exhibition in buildings never intended for this purpose.

Of course the A.S.C. clubhouse has many advantages not to be found elsewhere and which contribute much to the comfort of those attending its "theatre." There is the spacious 150-car parking lot, which is part of the clubhouse grounds, and there is a bar just off the lounge offering solace to the thirsty. There is a modern, well-equipped kitchen where a cateress prepares the delectable post-meeting snacks or the sumptuous monthly dinners for which the A.S.C. is renowned. But the comfortable seating is probably the "theatre's" salient feature for those who come to look at pictures.

Years ago, the A.S.C. clubhouse was the home of Conway Tearle, one of the top cinema stars of the silent era. The Society acquired the property in 1937 and converted it to provide quarters for its offices, a meeting place for its members, and recreational facilities for members who meet together between picture assignments.

With the addition of projection facilities, a long felt want of the Society's members has been fulfilled. While the A.S.C.'s current board of directors are to be credited for seeing the project through, it is president Charles G. Clarke and executive vice president Fred W. Jackman to whom must go special credit for untiring efforts in following the project to completion.

HOLLYWOOD CLOSE-UP

(Continued from Page 245)

Angles—Setups in long shots are varied to tell the story from the proper angle. In close-ups, the reasons for changing angles are manifold. In feminine close-ups, the most important is to beautify the star, to correct and to symmetrize. If you study faces, you will find that some people have impossible profiles, while others look better in profile than in full face. Some look their best from a three-quarter angle. You will also notice that, in most faces, one-half of the face is different from the other. Very few people have symmetrical faces, with both halves equal. Search for the best angle, and when found, use it.

Size—Why do we make close-ups? To see the face. That being the case, let us see the face only and leave out everything secondary, or at least keep it subdued in tone. Limit the size of the portrait or close-up to whatever you are trying to feature.

Composition of Close-ups—When we look into a mirror, we look at our eyes. When we look at a picture of any kind, we instinctively look at the upper part of it. This is because the eyes are in the upper part of the face. If we haven't found in the picture what we are looking for, our eyes start to travel. Therefore, whenever possible, place features of interest in the upper part of the picture, or, as we call it in pictures, above the *half-line*.

Foreground in Close-ups—Foreground pieces should be employed with great care in composing close-ups or portraits. They can easily distract. Never use a lighted lamp over-exposed curtains, or any other hot object in the foreground, because light catches the eye; they should be in the background. By the time the eye accustoms itself to the bright light, either the scene is over, or the iris of the eye is so closed down that the face featured in this instance appears entirely too dark. If they have to be used, inasmuch as they are already established, then dim them down considerably. In two-shots, have the lamp in the center,

(Continued on Page 265)

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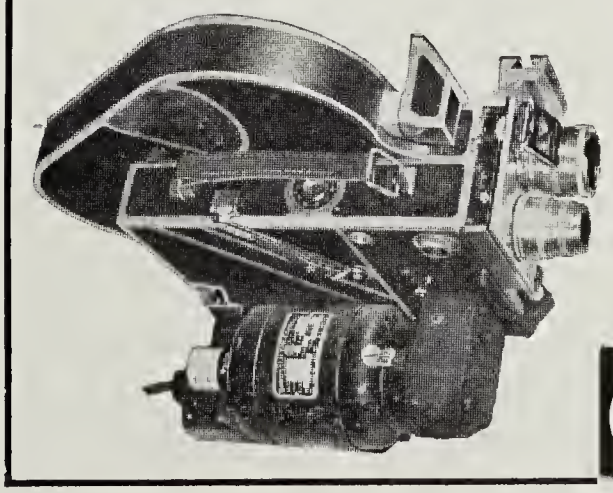
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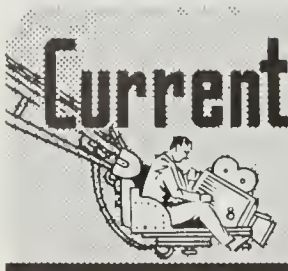
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Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

COLUMBIA

• Burnett Guffey, "Baby Is Here," with Robert Young, Barbara Hale, Robert Hutton, and Janis Carter. Henry Levin, director.

• Lester White, "Good Humor Man," with Jack Carson, Lola Albright, and Jean Wallace. Lloyd Bacon, director.

• Vincent Farrar, "Woman From Headquarters," later changed to "Mary Ryan, Detective," with Marsha Hunt, William Phillips, Charles Russell, June Vincent and Victor Horne. Abbey Berlin, director.

• Henry Freulich, "Girl's School," with Joyce Reynolds, Thurston Hall, Ross Ford, Laura Elliott and Julia Dean. Lew Landers, director.

• Charles Lawton, "The Tougher They Come," with Broderick Crawford, John Ireland Ellen Drew, Ed Buchannan and Ted De Corsia. Earl McEvoy, director.

INDEPENDENT

• Benjamin Kline, "Treasure of Monte Cristo," Screen Guild-Nassour) with Glen Langan, Steve Broidy and Adele Jergens. Leonard Picker, director.

• Lucien Andriot, "Borderline," (Borderline Pictures) with Fred MacMurray, Claire Trevor, Jose Torvay and Don Diamond. William Seiter, director.

M. G. M.

• Harold Rosson, "On The Town," (Technicolor) with Frank Sinatra, Gene Kelly, Vera Ellen, Ann Miller, and Betty Garret. Gene Kelly, director.

• Paul Vogel, "Battleground," with Van Johnson, John Hodiak, Ricardo Montalban, George Murphy, Marshall Thompson, Tommy Breen, Jim Mitchell, Bruce Cowling, and Denise D'Arcele. William Wellman, director.

• Joe Ruttenberg, "Side Street," (shooting in New York) with James Craig, Farley Grainger, Paul Kelly, and Cathy O'Donnell. Anthony Mann, director.

• Charles Schoenbaum, "Stars In My Crown," with Joel McCrea, Ellen Drew and Lewis Stone. Jacques Tourneur, director.

• Robert Planck, "Bodies and Souls," with Glenn Ford, Gloria deHaven, Charles Coburn, Janet Leigh and Nancy Davis. Curtis Bernhardt, director.

• Harry Stradling, "Tension," with Audrey Totter, Richard Basehart and Cyd Charisse. John Berry, director.

• Harold Lipstein, "Ambush," with Robert Taylor, John Hodiak, and Don Taylor. Sam Wood, director.

• George Folsey, "Adam's Rib," with Spencer Tracy, Katherine Hepburn, Judy Holliday, and Tom Ewell. George Cukor, director.

• Ray June, "Nancy Goes To Rio," (Technicolor) with Ann Sothern, Jane Powell, Louis Calhern and Barry Sullivan. Robert Z. Leonard, director.

• Harry Stradling, "Tension," with Audrey Totter, Richard Basehart, Cyd Charisse, and Barry Sullivan. John Berry, director.

MONOGRAM

• Harry Neumann, "Boomtown Badmen," with Jimmy Wakely, Cannonball Taylor and Lois Hall. Oliver Drake, director.

• Lew W. O'Connell, "Jiggs and Maggie In Jackpot Jitters," with Joe Yule, Renee Riano, June Harrison, Tim Ryan. William Beaudine, director.

• William Sickner, "Black Midnight," with Roddy McDowall, Lynn Thomas and Kirby Grant. Oscar Boettinger, Jr., director.

• Harry Neumann, "Haunted Trails," with Whip Wilson, Andy Clyde and Reno Browne. Lambert Hillyer, director.

• Marcel LePicard, "Angels In Disguise," with Leo Gorcy, Huntz Hall and Jean Dean. Jean Yarbrough, director.

PARAMOUNT

• Charles Lang, "Copper Canyon," (Technicolor) with Ray Milland, Hedy LeMarr, Macdonald Carey, Mona Freeman, and Harry Carey, Jr. John Farrow, director.

• John Seitz, "Sunset Boulevard," with William Holden, Gloria Swanson, Erich von Stroheim, and Nancy Olson. Billy Wilder, director.

• Danile Fapp, "I Married A Dead Man," with Barbara Stanwyck, John Lund, Lyle Bettger, and Jane Cowl. Mitchell Leisen, director.

• Charles Lang, (Technicolor) "Where Men Are Men," with Bob Hope, Lucille Ball, Lea Penman, Jack Kirkland and Eric Blore. George Marshall, director.

R. K. O.

• Harry Wild, "Terror," with Michael O'Shea, Charles McGraw, Virginia Grey, Julie Bishop and Frank Conroy. Felix Feist, director.

• Nick Musuraca, "Bed of Roses," with Joan Fontaine, Robert Ryan and Zachary Scott. Nicholas Ray, director.

• Lee Garmes, "My Foolish Heart," (Samuel Goldwyn Prod.) with Dana Andrews, Susan Hayward, Kent Smith and Lois Wheeler. Mark Robson, director.

• J. Roy Hunt, "Arizona Ambush," with Tim Holt, Richard Martin, Jacqueline White, Robert Clarke, William Tannen, Robt. Barrat. Lesley Selander, director.

REPUBLIC

• Edward Cronjager, "House By The River," with Louis Hayward, Jane Wyatt, Lee Bowman, Dorothy Patrick. Fritz Lang, director.

20TH CENTURY-FOX

• Milton Krasner, "Three Came Home," with Claudette Colbert, Alan Marshall, and Florence Desmond. Jean Negulesco, director.

• Leon Shamroy, "Twelve O'Clock High," (Shooting in Florida) with Gregory Peck, Millard Mitchell, Hugh Marlowe, Paul Stewart, Gary Merrill, and Dean Jagger. Henry King, director.

• Jack Cardiff, "The Black Rose," (Technicolor) (Shooting in North Africa) with Tyrone Power, Cecile Aubry, Alfonso Bedoya, and Bobby Blake.

• Charles G. Clarke, "The Quartered City," (Shooting in Germany) George Seaton, director. No announcement on cast as yet.

• Arthur Arling, "Wabash Avenue," (Technicolor) with Betty Grable, Victor Mature, Phil Harris, Reginald Gardiner, Jacqueline Dalya and Margaret Hamilton. Henry Koster, director.

• Joseph LaShelle, "Oh, Doctor!" with Dorothy Maguire, William Lundigan, Jesse Royce Landis and Gary Merrill.

• Arthur Miller, "Whirlpool," with Gene Tierney, Richard Conte, Jose Ferrer, Charles Bickford, Barbara O'Neal. Otto Preminger, director.

• Fred Jackman, Jr., "Fighting Plainsman," (Nat Holt Prodn.) with Raymond Scott, Victor Jory and Jane Nigh. Ed Marin, director.

• Lloyd Ahern, "Turned Up Toes," with Jean Peters, Caesar Romero, Paul Douglas, Keenan Wynn, Joan Davis and Arthur Treacher. Alexander Hall, director.

• Leo Tovar, "Front and Center," with Dan Dailey, Colleen Townsend, Corine Calvet and William Demarest. John Ford, director.

UNITED ARTISTS

• Joseph Biroc, "Mrs. Mike," (Sam Bischoff Prod.) with Dick Powell, Evelyn Keyes and J. M. Kerrigan. Louis King, director.

• Russell Harlan, "Gun Crazy," with Peggy Cummins, John Dahl, and Annabelle Shaw. Joseph H. Lewis, director.

• Robert DeGrasse, "A Kiss For Corliss," (Strand-Milbank-Berthugh-UA) with Shirley Temple, David Niven, Darryl Hickman, Virginia Welles, Tom Tulley and Robert Ellis. Richard Wallace, director.

• Ernest Laszlo, "The Big Wheel," (Stiefel Prod.) with Mickey Rooney, Thos. Mitchell, Michael O'Shea, Mary Hatcher and Spring Byington. Edward Ludwig, director.

UNIVERSAL-INTERNATIONAL

• Irving Glassberg, "Francis," with Donald O'Connor, Patricia Medina, Zasu Pitts, Richard Long and Ray Collins. Arthur Lubin, director.

• Russell Metty, "Bagdad," (Technicolor) with Maureen O'Hara, Paul Christian, Vincent Price, John Sutton and Anne Pearce. Charles Lamont, director.

• Charles Van Enger, "Kid From Texas," with Audie Murphy, Gale Storm and Albert Dekker. Kurt Neumann, director.

• Maury Gertsman, "Java," retitled "East of Java," with Shelly Winters, Macdonald Carey, Dorothy Hart and Luther Adler. H. Bruce Humberstone, director.

WARNER BROTHERS

• Sid Hickox, "White Heat," with James Cagney, Virginia Mayo, Edmond O'Brien, and Ray Montgomery. Raoul Walsh, director.

• Ernest Haller, "Chain Lightning," with Humphrey Bogart, Elinor Parker, Raymond Massey, and Richard Whorf. Stuart Heisler, director.

• Robert Burks, "Beyond The Forest," with Bette Davis, Joseph Cotten, David Brian, and Ruth Roman. King Vidor, director.

• Peverell Marley, "Perfect Strangers," with Ginger Rogers, Dennis Morgan, Margalo Gilmore, Anthony Ross and Alan Reed. Bretaigne Windust, director.

JAMES S. BROWN, Jr.

A.S.C. members were shocked to learn of the sudden death of fellow member James S. Brown, June 2nd. Brown was the son of a well-known physician, the late Dr. J. S. Brown of Montclair, N. J. He began camera work with the Thomas A. Edison Company. He was a photographic officer with the Signal Corps during World War I, and received a citation from General Pershing for his outstanding work.

Many of his picture credits were earned at Columbia studios.

HOLLYWOOD CLOSE-UP

(Continued from Page 263)

in single close-ups, ahead of the face, never behind. Especially are hot spots unpleasant to look at when they are out of focus. If you have to have a foreground piece, keep it dark. Venetian blinds make excellent foreground pieces.

The old-fashioned idea that, in making a close-up in motion picture photography, the head of the person had to be in the exact center of the picture is now taboo. A head can be in a corner or on the side of the picture. Combined with some object d'art or some decorative theme, it can make a perfectly balanced and acceptable composition. The frame and part of a painting showing an exterior make an excellent combination with a head close-up.

Eyes usually should be in the upper part of the picture. No matter how beautiful a hat may be, cut it in half if it stops you from putting the wearer's eyes in the upper part of the picture. When a person looks up, place him in the lower part of the composition; when he looks down, put him in the upper part. Generally, leave more room at the side of the picture toward which the subject is looking. This allows the imagination to travel. Behind the head is yesterday, uninteresting. We cannot change it. Ahead of it is tomorrow, full of expectations. We can still mold it. A head can be against the side line of the picture when, for example, there is the suggestion of fear or menace behind (Fig. 2).

Composing Foreground and Background — When composing a picture, keep an eye open for the background. Have no lights or other objects growing out of the head (Fig. 1). A lamp shade may look like a hat or crown if left directly behind the head in the background. The foreground can be blended into the background with, for instance, the frame of a picture. Drawings or any other design on the wall also make a good background. Rembrandt knew the secret of leaving the background dark and lighting only what he wished to feature.

Theme—In motion pictures, a close-up is usually part of a group or two-shot, but there are also single close-ups. Whichever class it belongs to, a picture needs a theme. In films there is no time to waste. By merely looking at the picture, the audience should know or receive an impression of what it is all about. The thought must be put over in the shortest length of time. In portraits the same rule applies. Your picture should convey an idea, a message. To accomplish this, have the person do something—read, hold a book, play the piano or other musical instrument, paint, or whatever action may suit your picture.

If we wish to feature a necktie, a jewel, a medal, or part of a dress or uniform, etc., the face can be subdued. Always light what you try to feature.

Close-ups can be, and sometimes are, photographed with any of the lenses in general use. Most good lenses, however, have a tendency to sharpen the image, to reveal and even exaggerate hidden blemishes, wrinkles, etc., much to the disadvantage of the person photographed. Close-ups of Hollywood stars are known the world over for their exquisite beauty. They are the export of the American film industry, and should be photographed with lenses especially designed for the purpose of beautifying. The portrait lenses used in the making of the famous glamorous Hollywood close-ups are usually of 75-80 or 100 millimeters focal length.

In the past, especially on lower budget pictures, in order to save precious time it was customary to take advantage of the existing long shot illumination, and use it for shooting close-ups. When a long shot was made, instead of moving in on a close-up and relighting they merely switched lenses. The result was a flat, overlit, and usually disastrous close-up. This can easily be explained. In a long shot the face of an actor may be only a small part of the picture. Sometimes, to suit the balance of the lighting scheme, the scene is overlit. When we change lenses, we eliminate everything but the face, and all we get is a flat white surface. Fortunately, this practice is slowly becoming outmoded. *To get quality, every close-up should be lit separately and balanced individually.*

BULLETIN BOARD

(Continued from Page 234)

ticed here, we would have no Communist problems anymore.

—Charlie Clarke."

●

DAN B. CLARK, A.S.C., is now associated with Shep Shepherd of Culver City in the photographic service and supplies business. Clark, a professional cameraman for the past 27 years and for 8 years head of the camera department at 20th Century-Fox, will head up the organization's department for the production of television, commercial and industrial films.

●

RICARDO MARCELINO, number one cinematographer for Premiere Productions, Inc., of Manila was a Hollywood visitor last month

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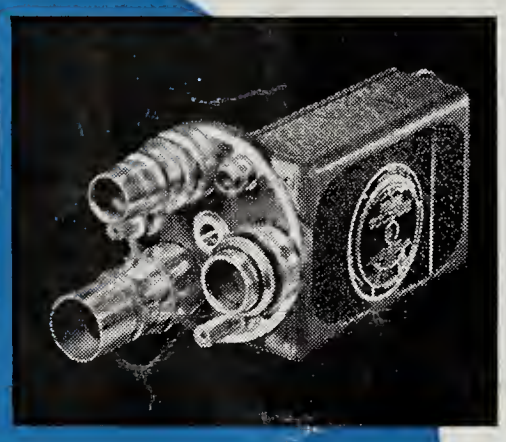
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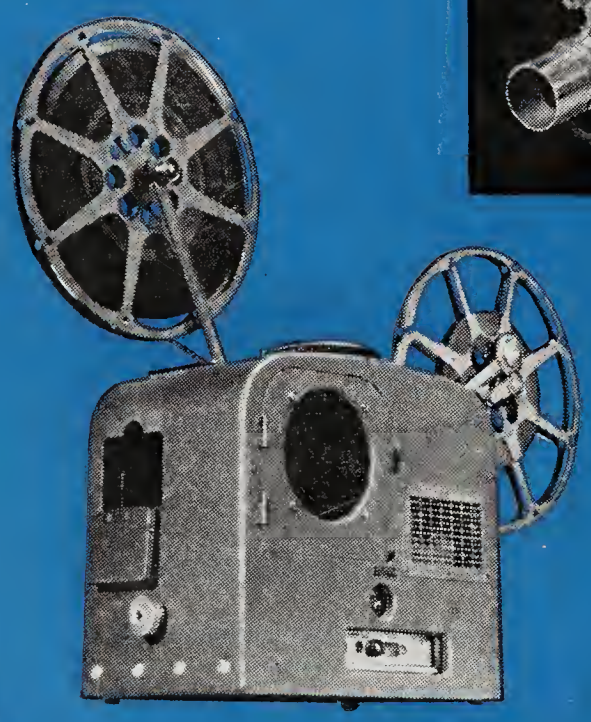
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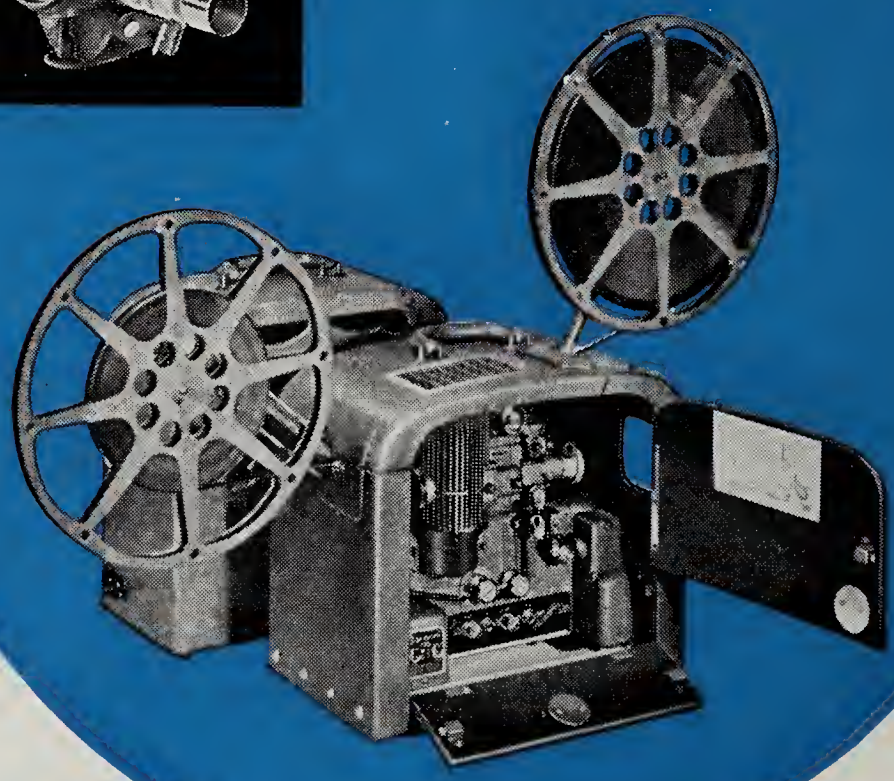


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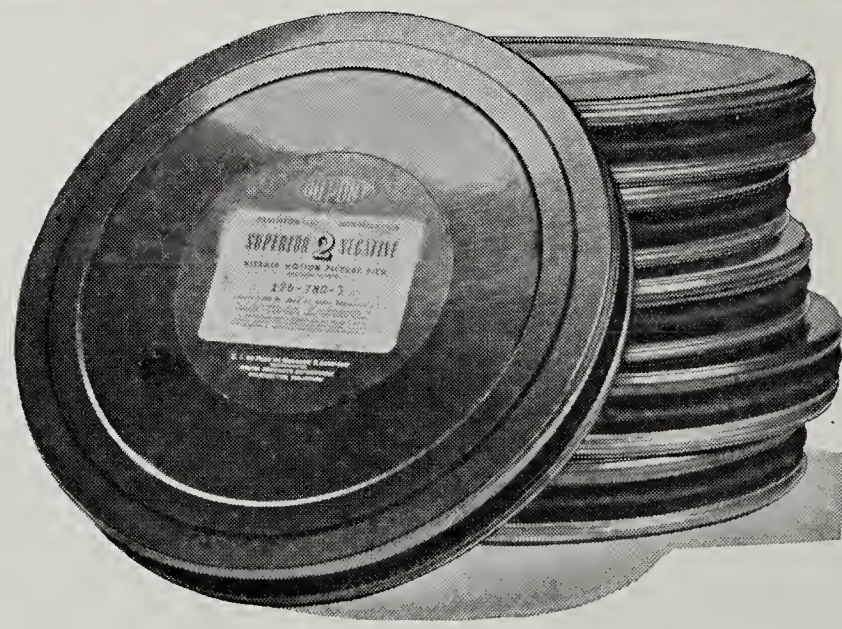
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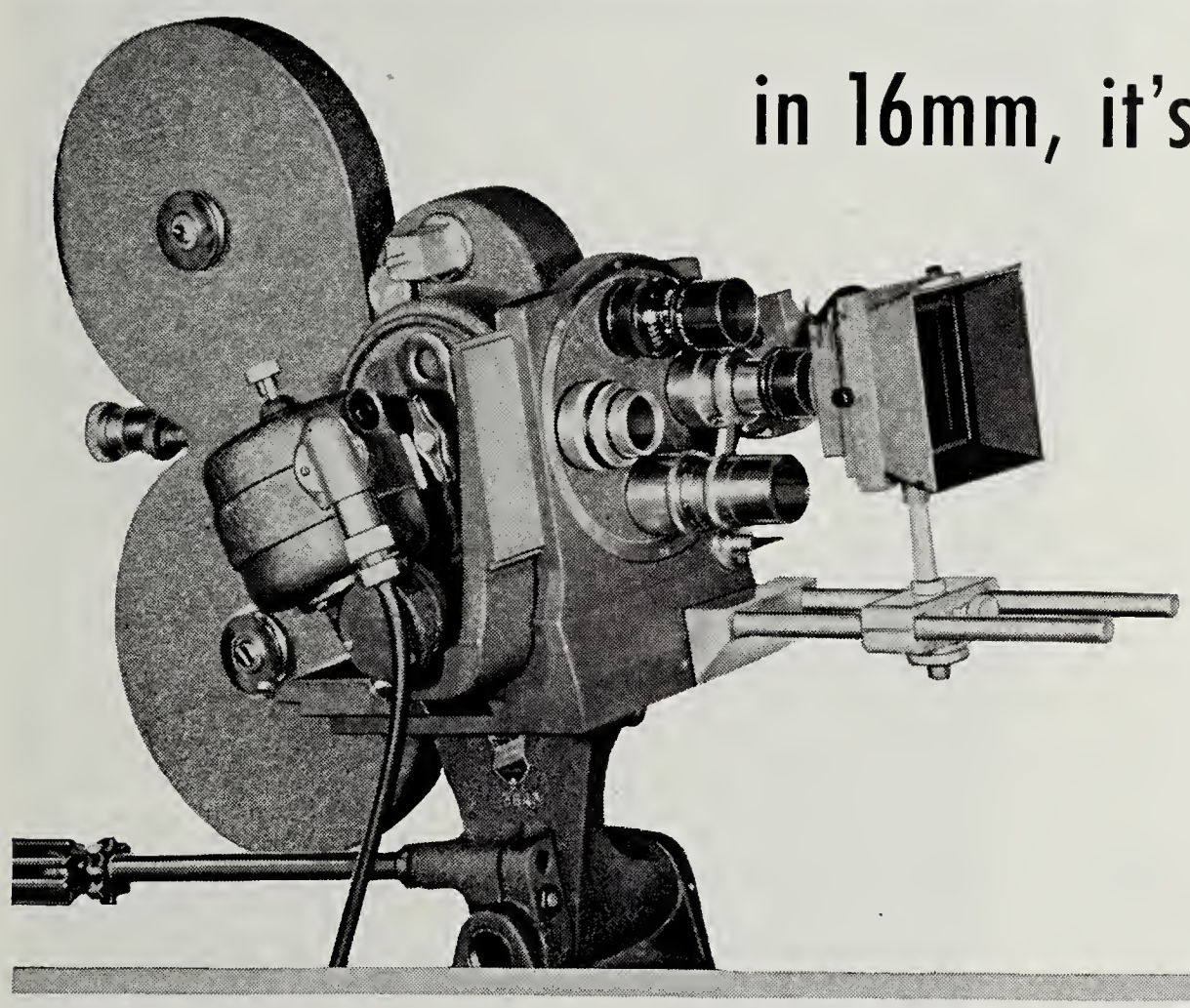


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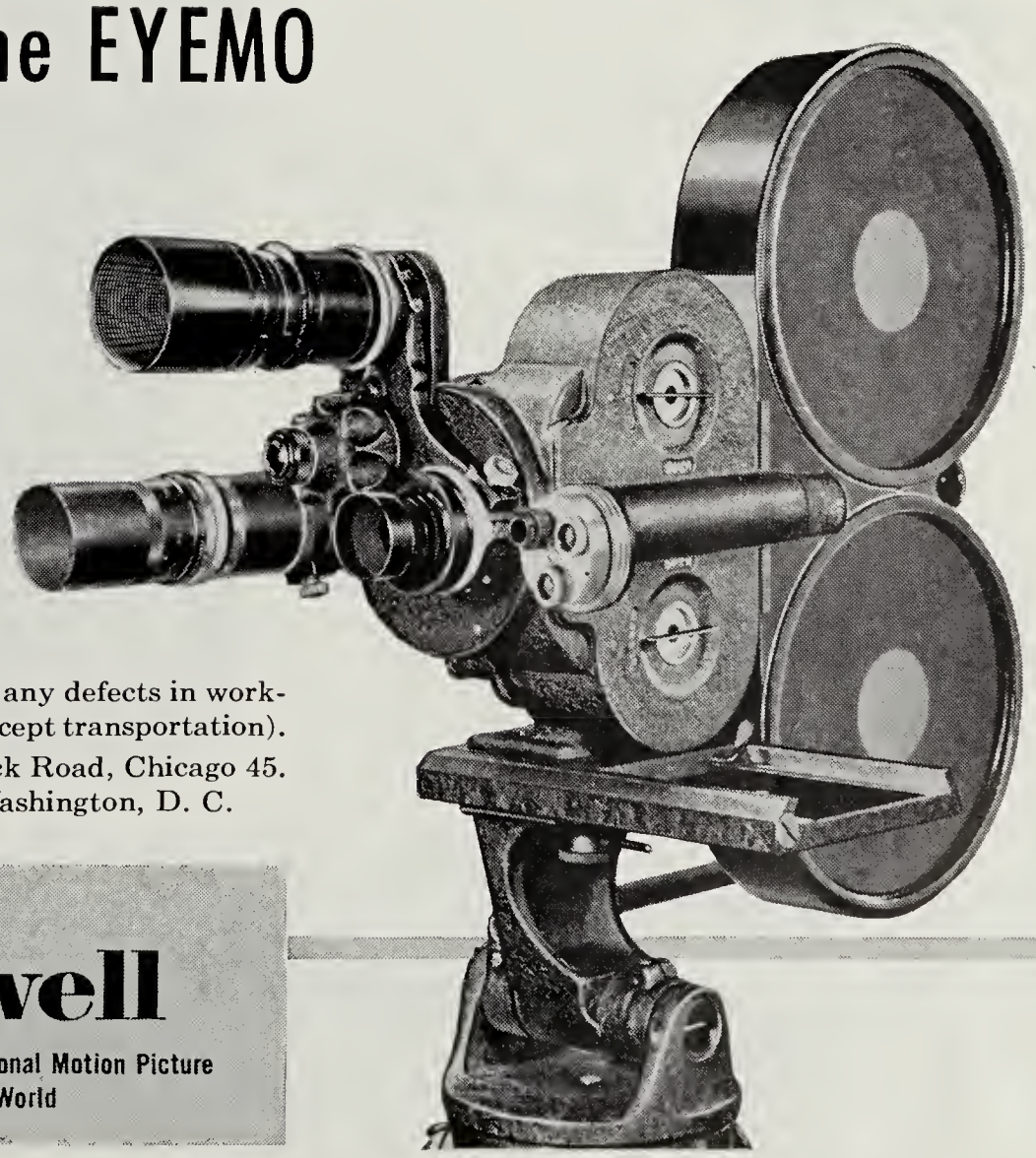


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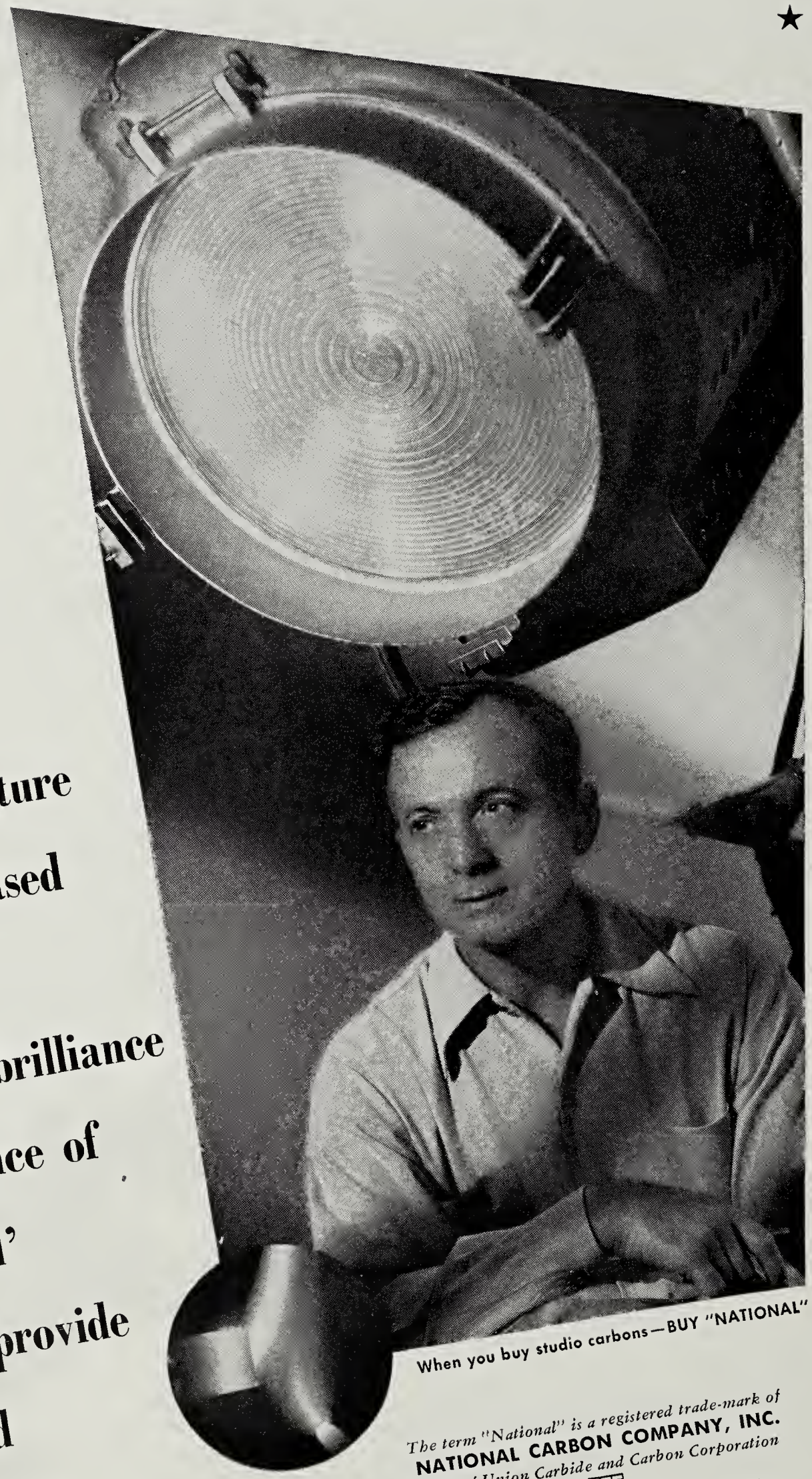
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FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

The Society meets regularly once a month at its clubhouse at 1782 North Orange Drive, in the heart of Hollywood. On November 1, 1920, the Society established its monthly publication "American Cinematographer" which it continues to sponsor and which is now circulated in 61 countries throughout the world.

Dominant aims of the Society are to bring into close confederation and cooperation all leaders in the cinematographic art and science and to strive for pre-eminence in artistic perfection and scientific knowledge of the art.

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VOL. 30 AUGUST • 1949 NO. 8

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ON THE COVER

SIXTEEN-MILLIMETER ciné cameras go into action alongside the big studio Mitchell to shoot a closeup of Ethel Barrymore on one of the sets for M-G-M's "Red Danube." Shooting the scene in color with their Bell & Howell Auto Master cameras are Walter Pidgeon (seated), and director of photography Charles Rosher, A.S.C. (right). Director George Sidney, also an avid 16mm. movie enthusiast, left his camera at home, looks on as the three cameras record the scene.

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1949 by A. S. C. Agency, Inc. AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.

Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

Columbia

• LESTER WHITE, "Good Humor Man," with Jack Carson. Lola Albright and Jean Wallace. Lloyd Bacon, director.

• CHARLES LAWTON, "Cargo To Capetown," with Broderick Crawford, John Ireland, Ellen Drew and Edgar Buchannan. Earl McEvoy, director.

• VINCENT FARRAR, "Palomino," with Jerome Courtland, Beverly Tyler, and Joseph Calleia. Ray Nazzaro, director.

• JOSEPH WALKER, "Woman of Distinction," with Ray Milland and Rosalind Russell. Eddie Buzzell, director.

Eagle-Lion

• GUY ROE, "Trapped," with Lloyd Bridges, John Hoyt, Barbara Payton and Russ Conway. Richard Fleischer, director.

Independent

• LUCIEN ANDRIOT, "Borderline," (Borderline-Republic) with Fred MacMurray, Claire Trevor, Jose Torvay and Chris Pin Martin. William Seiter, director.

• LIONEL LINDON, "Rupert II," (George Pal Prodn.) with Jimmy Durante, Terry Moore, Tom Drake and Sarah Hadden. Irving Pichel, director.

• HAL MOHR, "Johnny Holiday," (Alcorn Prodn.) with Wm. Bendix, Allen Martin, Jr., Stanley Clements and Jack Hagen. Willis Goldbeck, director.

• WINTON HOCH, "Thunder In The Dust," (Le May-Templeton Prod.) (Technicolor) with Robert Preston, Robert Sterling, Cathy Downs and John Barrymore, Jr., George Templeton, director.

• JACKSON ROSE, "Flight Three," (Balsam Prodns.) with Tom Conway, Lynn Roberts, Beverly Johns, Steve Brodie, Margaret Hamilton and Marcel Journet. Edward L. Cahn, director.

M.G.M.

• HAROLD ROSSON, "On The Town," (Technicolor) with Frank Sinatra, Gene Kelly, Vera Ellen, Ann Miller, and Betty Garret. Gene Kelly, director.

• HAROLD LIPSTEIN, "Ambush," with Robert Taylor, John Hodiak, and Don Taylor. Sam Wood, director.

• GEORGE FOLSEY, "Adam's Rib," with Spencer Tracy, Katherine Hepburn, Judy Holliday, and Tom Ewell. George Cukor, director.

• RAY JUNE, "Nancy Goes To Rio," (Technicolor) with Ann Sothern, Jane Powell, Louis Calhern and Barry Sullivan. Robert Z. Leonard, director.

• HAL ROSSON, "Key To The City," with Clark Gable, Loretta Young, Marilyn Maxwell and Frank Morgan. George Sidney, director.

• CHARLES ROSHER, "East Side, West Side," with Barbara Stanwyck, James Mason, Van Heflin and Reginald Gardiner. Mervyn LeRoy, director.

• ROBERT PLANCK, "Please Believe Me," with Deborah Kerr, Van Johnson, Robert Walker and Peter Lawford. Norman Taurog, director.

• PAUL VOGEL, "The Knife," with Gene Kelly, Teresa Celli and J. Carroll Naish. Richard Thorpe, director.

Monogram

• WILLIAM SICKNER, "Black Midnight," with Roddy McDowall, Lynn Thomas and Kirby Grant. Oscar Boettinger, Jr., director.

• MARCEL LEPICARD, "Angels In Disguise," with Leo Gorcy, Huntz Hall and Jean Dean. Jean Yarbrough, director.

• HARRY NEUMANN, "Cow Country," with Johnny Mack Brown and Max Terhune. Wallace Fox, director.

Paramount

• DANIEL FAPP, "The Lie," (Formerly titled "I Married A Dead Man") with Barbara Stanwyck, John Lund and Jane Cowl. Mitchell Leisen, director.

• CHARLES LANG, "Where Men Are Men," (Technicolor) with Bob Hope, Lucille Ball, Jack Kirkland and Eric Blore. George Marshall, director.

• GEORGE BARNES, "Let's Dance," with Betty Hutton, Fred Astaire, Roland Young and Barton MacLane. Norman McLeod, director.

R.K.O.

• NICK MUSURACA, "Bed of Roses," with Joan Fontaine, Robert Ryan and Zachary Scott. Nicholas Ray, director.

• LEE GARMES, "My Foolish Heart," (Samuel Goldwyn Prod.) with Dana Andrews, Susan Hayward, Kent Smith and Lois Wheeler. Mark Robson, director.

• MILTON KRASNER, "Christmas Gift," with Robert Mitchum, Janet Leigh, Wendell Corey and Johnny Wright. Don Hartman, director.

• J. ROY HUNT, "Range War," with Tim Holt, Richard Martin and Noreen Nash. Lesley Selander, director.

Republic

• EDWARD CRONJAGER, "House By The River," with Louis Hayward, Jane Wyatt, Lee Bowman, Dorothy Patrick. Fritz Lang, director.

20th Century-Fox

• LEON SHAMROY, "Twelve O'Clock High," (Shooting in Florida) with Gregory Peck, Millard Mitchell, Hugh Marlowe, Paul Stewart, Gary Merrill, and Dean Jagger. Henry King, director.

• JACK CARDIFF, "The Black Rose," (Technicolor) (Shooting in North Africa) with Tyrone Power, Cecile Aubry, Alfonso Bedoya, and Bobby Blake.

• ARTHUR ARLING, "Wabash Avenue," (Technicolor) with Betty Grable, Victor Mature, Phil Harris, Reginald Gardiner, Jacqueline Dalya and Margaret Hamilton. Henry Koster, director.

• JOSEPH LASHELLE, "Oh, Doctor!" with Dorothy Maguire, William Lundigan, Jesse Royce Landis and Gary Merrill.

• ARTHUR MILLER, "Whirlpool," with Gene Tierney, Richard Conte, Jose Ferrer, Charles Bickford, Barbara O'Neal. Otto Preminger, director.

• FRED JACKMAN, JR., "Fighting Plainsman," (Nat Holt Prodn.) with Raymond Scott, Victor Jory and Jane Nigh. Ed Marin, director.

• LLOYD AHERN, "Turned Up Toes," with Jean Peters, Caesar Romero, Paul Douglas, Keenan Wynn, Joan Davis and Arthur Treacher. Alexander Hall, director.

• LEO TOVAR, "Front and Center," with Dan Dailey, Colleen Townsend, Corine Calvet and William Demarest. John Ford, director.

• ERNEST PALMER, "War Paint," (Technicolor) with James Stewart, Debra Paget, and Joyce MacKenzie. Delmer Daves, director.

• CHARLES G. CLARKE, "Two Corridors East," (Formerly titled "The Quartered City" (shooting in Berlin) with Montgomery Clift, Paul Douglas and Cornelia Bruch.

United Artists

• JOSEPH BIROC, "Mrs. Mike," (Sam Bischoff Prod.) with Dick Powell, Evelyn Keyes and J. M. Kerrigan. Louis King, director.

• DON MALKAMES, "Runaway," (Filming in New York City) with Paul Henried and Catherine McLeod. Bernard Vorhaus, director.

• ROBERT DEGRASSE, "A Kiss For Corliss," (Strand-Milbank-Berthugh-UA) with Shirley Temple, David Niven, Darryl Hickman, Virginia Welles, Tom Tulley and Robert Ellis. Richard Wallace, director.

• ERNEST LASZLO, "The Big Wheel," (Stiefel Prod.) with Mickey Rooney, Thos. Mitchell, Michael O'Shea, Mary Hatcher and Spring Byington. Edward Ludwig, director.

Universal

• RUSSELL METTY, "Bagdad," (Technicolor) with Maureen O'Hara, Paul Christian, Vincent Price, John Sutton and Anne Pearce. Charles Lamont, director.

• MAURY GERTSMAN, "Java," retitled "East of Java," with Shelly Winters, Macdonald Carey, Dorothy Hart and Luther Adler. H. Bruce Humberstone, director.

• RUSSELL METTY, "Buccaneer's Girl," with Yvonne DeCarlo, Robert Douglas, Andrea King, Norman Lloyd and Peggie Castle. Frederick de Cordova, director.

• IRVING GLASSBERG, "The Story of Molly," with June Havoc, Scott Brady, Dorothy Hart, Charles Drake. Crane Wilbur, director.

• WILLIAM DANIELS, "Fugitive From Terror," with Ida Lupino, Stephen McNally, Howard Duff, and Peggy Dow. Michael Gordon, director.

Warner Brothers

• ERNEST HALLER, "Chain Lightning," with Humphrey Bogart, Elinor Parker, Raymond Massey, and Richard Whorf. Stuart Heisler, director.

• ROBERT BURKS, "Beyond The Forest," with Bette Davis, Joseph Cotten, David Brian, and Ruth Roman. King Vidor, director.

• PEVERELL MARLEY, "Perfect Strangers," with Ginger Rogers, Dennis Morgan, Margalo Gilmore, Anthony Ross and Alan Reed. Bretaigne Windust, director.

• TED MCCORD, "Young Man With A Horn," with Kirk Douglas, Lauren Becall, Doris Day, Hoagy Carmichael and Juano Hernandez. Michael Curtiz, director.

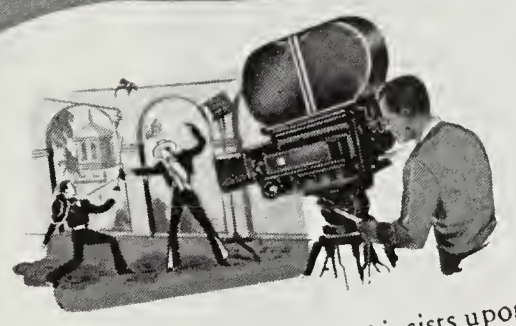
• CARL GUTHRIE, "The Cage," with Eleanor Parker, Agnes Moorhead, Jan Sterling, Gertrude Michael and Ellen Corby.

• ERNEST HALLER, "Always Leave Them Laughing," with Milton Berle, Ruth Roman, Virginia Mayo and Bert Lahr. Roy Del Ruth, director.

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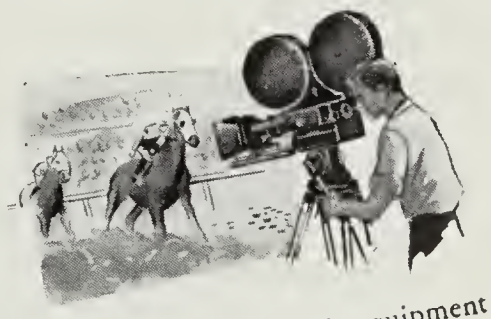


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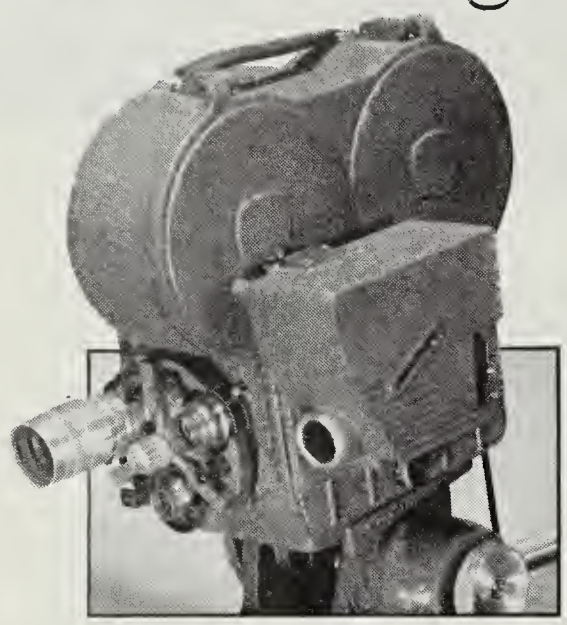
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Hollywood Bulletin Board

HOLLYWOOD production is still keeping up a hefty pace. Nine new productions went before the cameras July 25th, making a total of 42 on the stages for that date. This figure is eight pictures better than at same time a year ago.

●

CHAS. G. CLARKE, A.S.C., started shooting July 25th on TCF's "Two Corridors East," in Germany. Clarke has been overseas several weeks preparing cameras, equipment and staff for the picture, which was originally tentatively titled "The Quartered City."

●

BELGIUM, at its annual World Film and Fine Arts Festival, concluded July 10th, awarded Belgian "Oscars" to nine American-made films. Ted Tetzlaff, A.S.C., was honored by the Belgians for his direction of "The Window," adjudged the best-directed picture. No reports have been received as yet regarding awards made for cinematography.

●

S.M.P.E. committee chairmen for the Society's 66th convention to be held at the Hollywood Hotel in October, include Sid Solow, A.S.C., in charge of local arrangements for convention; Watson Jones, reservations committee; Herbert Griffin, transportation; Harold Desfor, publicity; C. W. Handley, registration and information; J. P. Livadary, luncheon and banquet; Lee Jones, membership and subscriptions; Mrs. Peter Mole, ladies' reception committee; Lloyd Goldsmith, 35mm. projection, and H. W. Remercheid, 16mm. projection. Convention program includes five days of technical sessions, Monday through Friday, October 10 to 14.

●

JOHN OLIVER, designer and builder of camera and photographic processing equipment for more than 15 years, has joined the Hycon Mfg. Co., Pasadena. Formerly heading the Oliver Engineering Company in Hollywood, Oliver was previously in the camera department at Columbia studios.

●

GILBERT WARRENTON, A.S.C., is currently in Detroit shooting a commercial production in color for the Raphael G. Wolff Studios, Hollywood.

●

JOHN BOYLE, A.S.C., returned July 10th from an extended filming assignment in the South Pacific.

●

RAY FERNSTROM, A.S.C., is testing new Belgium-made Gevaert color film negative in preparation for a tentative picture assignment in India on which this film will be used. Fernstrom is one of the few cinematographers who have actually photographed motion pictures in every color film medium developed to date. "Name any color film," he says, "I've used 'em all!"

●

TECHNICOLOR and Paramount Pictures technicians have solved the problem of getting absolute clarity in color process shots. New system was used for first time in C. B. DeMille's "Samson &

(Continued on Page 304)

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DRAMATIC camera angles and skillful low key lighting enhance the terrific fight sequence in "Rope Of Sand." Here, director of photography Charles Lang, A.S.C. (back to camera), prepares to film a low angle shot of two men fighting atop the half-track — "prowl car" of the diamond company's private police.

The "Lang Touch" scores again in

ROPE OF SAND

By HERB A. LIGHTMAN

THE ATTEMPT of an American guide to force his way into a privately controlled South African diamond preserve furnishes the dramatic and unusual story of "Rope of Sand." Tautley directed by William Dieterle and dramatically photographed by Charles B. Lang, Jr., A.S.C., the picture traces efforts of the guide to locate a valuable cache of rough diamonds which he had previously discovered there.

The film teems with intrigue. A suitably rugged hero is pitted against a suitably despicable villain, while a suitably enigmatic official throws his political weight first in favor of one, and then the other. A voluptuous "femme fatale" of none too savory past, stands on the sidelines ready to embrace whomever should be pitched unscathed from the midst of the brawling sub-plot.

The dramatic structure of "Rope of Sand" is not especially original, since it is basically the old chase formula bedecked in diamonds; however, it manages by dint of raw action and thickly congealed photographic mood, to hold the audience perched reasonably well forward on the edges of its respective seats. The cinematographer's responsibility in supervising the photography of such a vehicle is much more demanding than in the filming of most other subjects. It is not sufficient that he record the action in well-lighted, well-composed frames; he must in addition create with light, shadow, and camera placement, a tangible dramatic atmosphere faithful to the locale, the plot, and the pace of the action. In "Rope Of Sand," director of photography Lang has succeeded brilliantly in creating just such a dramatic mood pattern. His lighting is more eloquent for that which it conceals than that which it reveals. His camera assumes points of view which are not only pictorially interesting, but which suggest that dramatic action stands ready to burst forth just outside the frame line. Generally speaking, the photographic treatment is stylized to directly enhance the impact of a strenuous plot set in a most unusual locale.

Appropriately enough, the film begins with a chase, although it is only a kind of sub-plot chase employed to introduce the locale and symbolize the basic conflict which exists between protagonist and antagonist in the unfolding of the main plot. A sweating, terror-stricken native is seen stumbling frantically over the barren sand dunes of the desert waste. The camera flees with him before revealing that from which he flees. Then suddenly over the top of a mountain of sand, looms a clanking metallic monster, a half-track carrying the private police of the diamond preserve. In the distance, another mechanical blood-hound bounds over a ridge, and the two converge mercilessly upon the unfortunate fugitive.

In this sequence, the camera faithfully captures the white-hot, sun-drenched personality of the predatory desert. Sand and sun merge into a kind of trap set to catch those whose lust for diamonds leads them to pit mere human flesh against the quietly lethal forces of nature. From this point on, the camera moves



STUDIED — Every camera angle was carefully chosen and analyzed for the dramatic emphasis it could lend the photography of "Rope Of Sand." Here, Lang (with dark hat, background) considers a camera setup for scene.

into a series of dramatic (and often *melodramatic)* sequences staged against properly atmospheric settings. There is the local gin-mill with its collection of gliding, shifty-eyed derelicts. There is the back room of this establishment, in which the hero and the villain meet in a poker battle to the death. In this sequence, the camera assumes prime responsibility for the creation of almost monumental suspense. Low-key lighting is combined with low angles and extreme closeups, to bring the audience right into the vortex of the game. The cards themselves, while used as pictorial elements to frame the compositions, also assume a high dramatic importance. The sequence is one in which a static but intimate camera combines with staccato cutting to achieve a most suspenseful result.

Like every good script, "Rope of Sand" has its other side—one which emphasizes glamor and romance. The main locale for this situation is the lushly elaborate colonial mansion of the villainous commandant. The art direction expended on this set lends itself beautifully to the artistic camera treatment which cinematographer Lang has given it. The rough hand-hewn brick walls form an interesting contrast to the rococo art treasures displayed thereon, forming a perfect canvas for the painting with light that is used to such good advantage. Here again, the general lighting scheme is low-key, but it is not a sinister type of low-key; rather it is a mellow style of lighting treatment primarily designed to display to full advantage the curvaceous charms of the film's heroine.

The dramatic climax of the plot is a "knock-down drag-out" fight between the hero and the villain, a battle to the death that builds to almost unbearable heights of suspense. The brutal impact of this sequence is due partially to expert direction, partially to the extremely realistic performances of the players (who refused the aid of doubles), but most directly to the inspired coordination of camera angles and lighting used in photographing the sequence.

The action takes place out on the desert in a shallow draw between two sand dunes. It is night, and the source of the key illumination is the headlight beam of the half-track in which the characters have been riding. A driving wind, complete with swirling sand, enhances the effect. It is in this setting that the characters, having stopped the half-track, somewhat theatrically throw their weapons away, and proceed to settle their score with bare fists, shovels, and a few other miscellaneous pieces of hardware that go with the half-track. The low camera angles, the stark cross-lighting, and the dynamic super-close-ups, edited together with the staccato punch of machine-gun bullets, combine to make this the most viciously potent sequence in the film.

Location filming for "Rope of Sand" was done on the vast California-Arizona sand dunes near Yuma, a stretch of territory closely resembling the diamond country north of Capetown, scene of the story. The entire cast and crew, almost 100, motored to the Yuma location headquarters, and set up what amounted to a portable studio away from Paramount's Hollywood studio. They used giant half-tracks and tractors to operate on the sands.

Buttercup Valley, where most of the action was lensed, is a small oasis deep in the heart of the desert. Freak winds keep this quarter-square-mile area free of sand, althouh it is completely surrounded by gigantic drifts. When it became necessary to re-create certain of these actual desert settings back at the studio in Hollywood, it was discovered that West-Coast sand photographed differently from the inland species; therefore, for matching purposes, several truckloads of Yuma sand were transported to Paramount for the pick-up shots.

Among the props taken to Arizona on location were several cartons filled with skulls and the skeletal remains of animals. These were sprinkled about the sands to lend the proper atmosphere. They were later retrieved and returned to the studio. Construction crews from Hollywood built a workable airport on the desert for key scenes in the film, and the airdrome, complete with necessary buildings, still stands. It will be used as an emergency landing strip for planes in the Yuma area.

"Rope of Sand" is an exciting bit of film fare which probably would have stacked up as fairly absorbing screen melodrama, even had it not been filmed with more than just an adequate camera treatment. However, with the inspired photography of Charles B. Lang, Jr., it emerges as a top-drawer example of cinema craftsmanship. **END.**



LANG'S lighting throughout picture is more eloquent for what it conceals than for what it reveals. His camera assumes points of view not only pictorially interesting but suggesting dramatic action immediately imminent.



FIGHT action played at night in light of half-track's headlamps gave scenes greater dramatic impact. Thus with light, shadow and camera placement, Lang reproduced atmosphere faithful to the South African desert locale.



1914 — The motion picture cameraman in early days of silent movies worked unaided. He owned his own nondescript camera, loaded his own film and did other chores around studio when not shooting. Riding breeches, puttees and cap identified his calling.



1920 — Six years later movies were being made indoors. Typical is this behind-scenes shot of Fred Jackman, A.S.C., directing a Mack Sennett comedy.

Cinematography's Changing Pace . . .

Cinematography has developed from a one-man art to a science requiring staffs of specialists, many of whom are veterans of the early silent picture days.

By JAY DEVON

A FIGURE well remembered by those who grew up during the era of the nickleodeon is the chap in puttees and cap turned backwards. He furiously cranked a mysterious black box while comic cops threw custard pies at each other and comely maidens tied to railroad tracks stubbornly refused to surrender their virtue.

This eager-beaver of the crank handle was a versatile chap. He would dash out from behind his camera and shout orders to the actors through a megaphone. Five minutes later he might be pounding a set together or moving furniture into place. He was a man of many skills and talents, but his main responsibility was to keep the camera crank turning and the camera lens centered on the action. No one had ever thought of him as an artist, nor had he ever heard the word *cinematographer*, which was coined and came into use some time later, as we shall presently relate.

A motion picture cameraman, in those pre-adolescent days of the movies, was a jack-of-all-trades and master of many. His world revolved around the camera crank. He usually loaded his own film magazines, set up his own equipment, placed his reflectors, moved the lights about, and kept the film whirring through his camera at a more or less uniform rate of speed. When all the drama or comedy was safely "in the can," he often grabbed a broom and swept up the stage.

Motion picture photography has come far since the days of the Keystone cop and open air stages where movies were filmed with the aid of sunlight. And what of the man in puttees and the cap turned backwards? The "puts" and cap eventually were discarded. His was no longer a one-man job. He was provided with a crew—men to hustle the camera about, to load magazines; separate technicians to set focus, arrange lights, and a man to operate the camera. He was now called a cinematographer—a contraction of the words *cinema* and *photographer*.

No, he wasn't getting soft, and his role in the production of motion pictures was not made any simpler by the addition of a camera staff. The technique of cinema photography had progressed rapidly. Filming a motion picture was no longer the simple matter of setting up camera and shooting the scene in sunlight. Movies were now made for the most part in enclosed studio stages. A genuine photographic art was being developed and each cinematographer of the day contributed substantially to it.

Today, a cinematographer is not, as



1932 — The cameraman was now called a cinematographer, had a corps of assistants such as surrounds Karl Struss, A.S.C. (rear, right) in photo above.



1949 — Compare this picture with one at extreme left and you'll realize that motion picture photography has come a long way since the days of puttee'd cameramen of 1914. Photo shows Arthur Miller, A.S.C. (left), and his camera crew at 20th Century-Fox studio.

many people believe, merely a cameraman. In fact, he seldom touches the camera. Someone has aptly stated that a cinematographer is one-third artist, one-third mechanic and one-third executive. He must know the techniques of photography backwards and forwards, of course. But his job only begins there. His horizon extends far beyond the camera itself and into the fields of screenwriting, set design, direction and film editing—for he is no longer concerned with light and shadow alone, but with the much more complex problem of visual continuity.

The smooth flow of a motion picture from scene to scene and sequence to sequence is not easy to achieve. When one considers that a motion picture is in reality a mosaic of ever-changing images on celluloid strips spliced carefully together, it can readily be seen that smooth continuity is one of those things that just doesn't automatically happen. The dual responsibility of the cinematographer, therefore, is to interpret the dramatic values of the story in the most effective manner possible and, at the same time, to contribute toward keeping it flowing smoothly along.

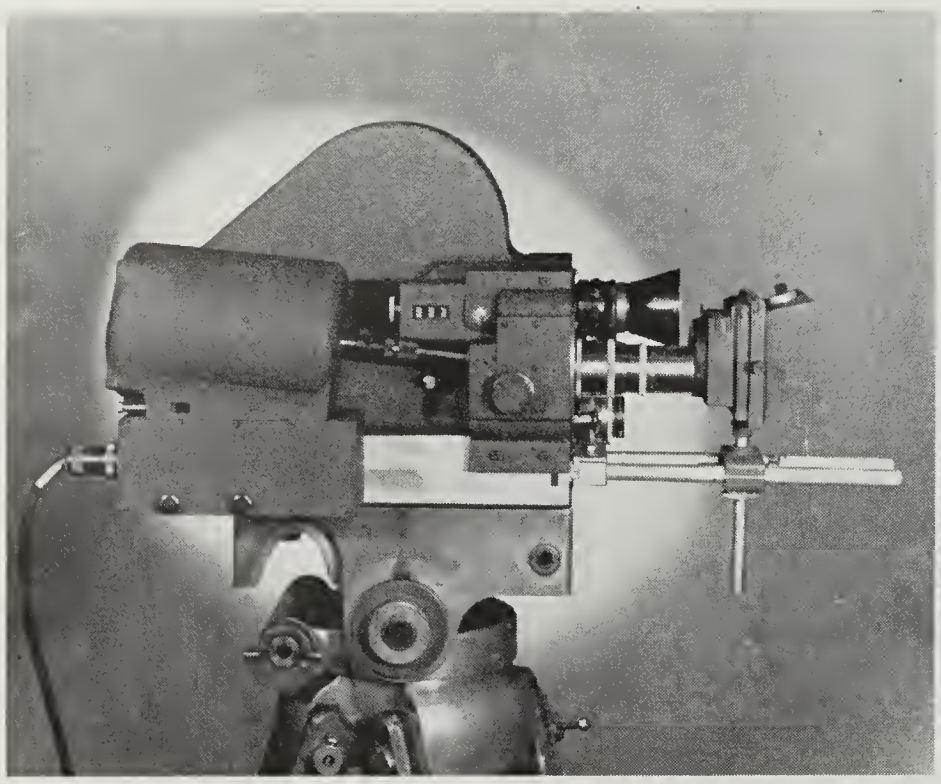
There was a time when the cinematographer was not assigned to the picture until the day shooting was to begin; but as the art advanced, it was seen that the cinematographer could contribute much better work when he was given the script to read in advance. This helped, but there was still a lack of real rapport between the photography and other elements of the production.

More recently, this situation has changed. Not only has the cinematographer become recognized as a highly creative technician as well as artist, but it has become evident that he functions at his greatest efficiency when his photographic conception of a production arises out of pre-planning that begins at the scripting stage. While it is still comparatively rare for the cinematographer to be

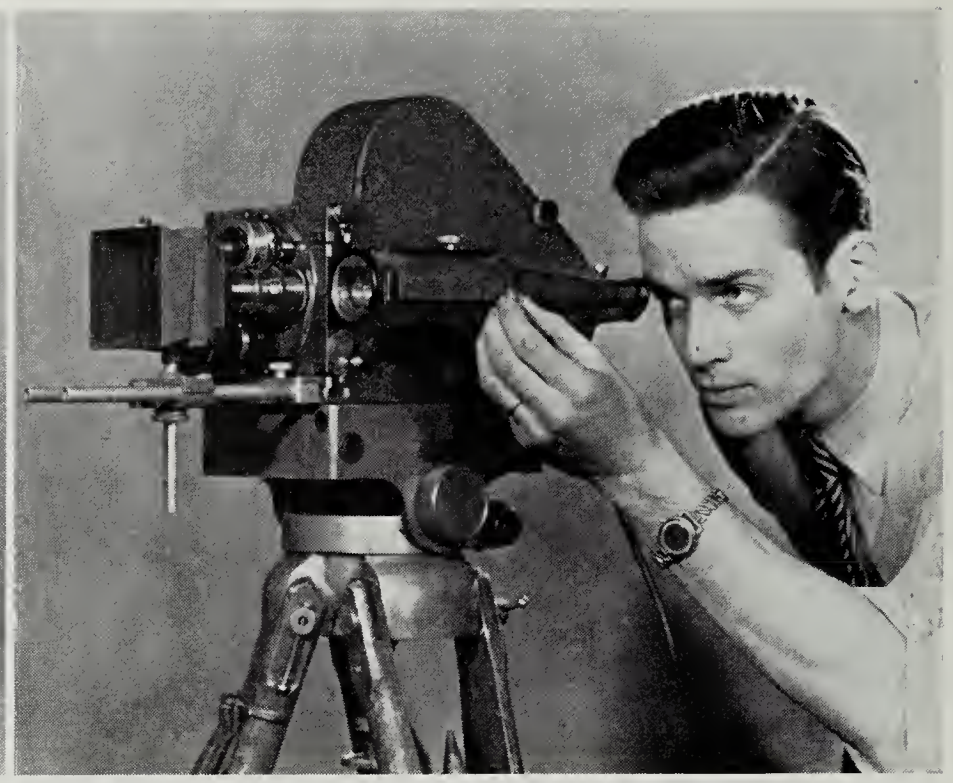
(Continued on Page 303)



DIRECTION and cinematography today are so interrelated that some of Hollywood's top cinematographers — Rudolph Mate, A.S.C. (left), and Ted Tetzlaff, A.S.C., to name two — have become feature film directors with scarcely a break in stride.



SAFETY FEATURES — Motor side of the Nord Camera shows safety release between motor and gear box, also motor reverse just below motor housing. Latter has lock screw to prevent backing up camera accidentally.



IMPROVED FINDER — The Nord finder is instantly adjustable to match any lens from 12½mm. to 8-inch telephoto. Finder operates similar to telescope and provides brilliant direct image corrected R to L.

The New Nord Camera

Embodying many new and exclusive features is this new 16mm. camera for the commercial film producer.

By DAVE HOFFMAN

THE NORD 16mm. camera is deliberately designed to fit the specialized problems of the commercial, television and educational film producer. It is no overnight development, according to Roy Clapp, of the Nord Company. Over five years of experienced engineering effort were required to translate the long-felt needs of the commercial 16mm. cameraman into a rugged precision instrument which would meet the severe demands he must put upon it. To provide a camera which would incorporate practically all of the conveniences of the studio instrument, yet which would be compact, rugged and reliable—a workhorse which can be depended upon for faithful service even when subjected to abuse and hard knocks—it goes almost without saying that to fulfill these severe requirements the Nord camera is constructed along a basically new design.

Since the commercial film producer often operates out in the field away from the luxury of a convenient darkroom, the Nord 16mm. camera is designed to use daylight loading, 100 and 200 foot spools, so that it is possible to schedule each day's shooting so that rolls can be finished, packed and shipped without recourse to darkroom loading.

Probably no other feature in a motion picture camera has proven of greater value than the rack-over which permits direct viewing and focusing. In the Nord camera this essential feature has been retained, but for the first time it is housed entirely within the camera case so that it is completely protected. By thus totally enclosing the rack-over, the precision mechanism of the camera is fully protected against dirt and dust. This feature is a boon to producers working on location where bad dust conditions frequently prevail.

It should be emphasized that this is a true rack-over since the entire mechanism moves as a unit, maintaining the film in a straight path without twists. The camera mechanism can be turned over in either viewing or photographing position.

The dovetail slide has been eliminated and a vee rail of hardened tooled steel is employed. The mechanism is held securely against this vee rail by springs so that there is never any need for adjustment. Since the front of the camera is supported on three sides and all the rack-over mechanism is housed inside of the case, all structural weakness has been eliminated.

When the camera is racked over for viewing, the entire field is viewed without any ground glass interposed. While the conventional ground glass is satisfactory for lining up shots in a 35mm. camera, it is not satisfactory in a 16mm. camera because of the smaller image and consequent greater magnification. By eliminating the ground glass entirely, all the details can be clearly seen and with full brilliancy, so that it is often unnecessary to "hit the lights" in order to line up a shot. This makes a considerable saving in time possible since the camera set-up can frequently be made while the lights are being placed.

The optical system has been designed so that it will cover all lenses from a wide angle to extreme telephoto. After a shot has been lined up, a touch of a lever throws a compound microscope into position so that a small section in the center of the field is magnified over 100 times. This permits positive, critical, direct focus and eliminates any possibility of error due to faulty lens calibration, zonal aberration, etc. With this system there are never any fuzzy shots.

The Nord Camera embodies what is perhaps the simplest and most accurate film pulldown ever devised. It provides

(Continued on Page 296)



CANDLELIGHT closeups and other low-key lighting effects are usually ineffectual on television, because present TV tubes cannot register extremes of black and white with fidelity.



FILMS FOR TV are made in this modest studio of Roquemore Films, Hamburg, N.Y. Studio includes such modern film making facilities as moving backgrounds, camera dollies and incandescent lighting equipment. The television commercial, according to firm's E. E. Roquemore, demands the utmost care in production that its very simplicity shall make it all the more effective visually.



PRODUCERS of TV films find it advisable to always sacrifice a bit of production value in favor of clarity. Instead of large casts, they hold the number of people in a scene to the minimum, keep the action simple.

Some Do's And Dont's For TV Film Photography

By CHARLES LORING

ADVERTISERS venturing early into television have discovered that film is by far the most accurate and economical medium for presenting a video sales message. Also, because of the prohibitive one-performance cost of live entertainment television shows, there is also developing a definite demand for films on entertainment subjects.

One immediate reaction to this trend has been the resurrection of old photoplay features and short subjects as television program material. The results have been somewhat less than optimistic. So bad has been the reception quality in most cases that even the most tolerant observer is at a loss to determine what is going on before his eyes half the time. This is due to two causes: first, the fact that the technical quality of the older pictures being shown just isn't good to begin with. Secondly, and even more important, these films were produced for theatre release and were shot using techniques adequately suited to theatre screens at the time.

Even with all of the fumbling that has been going on in the production of films for television, and even though few really definite conclusions have yet been reached, it is evident that the video tube requires a type of film production peculiarly its own, and that films produced solely for theatre screens often will not, for the most part, reproduce well on television.

What, then, are the taboos in filming for television? What are the *do's* and the *dont's* that make this type of production different from that slanted to theatre screens? The most important factor is the present limitations of the medium itself. Consider that television screens range from 3 to 12 inches in width, that the line pattern is not yet

(Continued on Page 294)



SIMPLICITY should keynote all set designing for TV films. The fine detail we're accustomed to seeing in motion picture sets, such as one from "The Fountainhead," shown here, are often wasted on the television tube.

Color Compensating Filters Simplified

A single CC filter in new progressive series produces the desired "in between" effect that formerly required two and sometimes three compensating filters.

By ARTHUR ROWAN

THE TERMINOLOGY of color compensating filters—except to the photographer who uses them—has always been a language with symbols all its own. As a result, some time has usually been required by the uninitiated to learn what was what and how to choose the most effective filters for the particular job in hand.

The Eastman Kodak Company has taken steps to dispel this confusion, however, by announcing a new line of color compensating filters with practically self-explanatory designations, and variations in density from filter to filter which follow a more practical and useful progression than heretofore.

For example, the name, "Kodak Color Compensating Filter CC-05M," yields the information that the filter is a color compensating one (CC); that its density is .05 (05); that it is magenta in color (M), and hence absorbs green.

The new series includes yellow filters (to absorb blue); magenta filters (to absorb green); cyan filters (to absorb red); red filters (to absorb blue and green); green filters (to absorb blue and red); and blue filters (to absorb red and green). The initial letter of the color in each case is included in the filter designation to specify the color of the filter.

The numerals (such as 05) appearing in the filter designation specify the strength or absorptive qualities of the filter. The filters are spaced uniformly in density (instead of geometrically as heretofore) so that the difference between successive filters in any given series is .10, except between the first two in each series where the difference is .05. This has been made possible by the development, by Kodak, of better dyes for filter-making purposes which can be kept to closer tolerances.

What that means, as far as usefulness is concerned, is that because of the new uniform progression between filters, photographers can much more precisely control the color of light entering the camera—and thus the color of the finished results. The new progressive series of filters permits one filter to be used in most instances where heretofore two or even three filters were required to achieve that "in between" compensating effect desired for a particular picture.

These new filters replace to some degree the CC filters formerly offered by Kodak. Although there is no exact similarity between any of the old filters and any of the new, a chart comparing the old and new filters—as well as a table of applications—is included in a revision of the booklet, "Compensating Filters for Kodak Color Films." Copies of the booklet are available without charge on request to Sales Service Division, Eastman Kodak Company, Rochester 4, New York.

In general, the price of the new filters

(Continued on Page 296)

KODAK COLOR COMPENSATING FILTERS

Peak Density	Yellow (Absorbs Blue)	Exposure Increase in Stops*	Magenta (Absorbs Green)	Exposure Increase in Stops*	Cyan (Absorbs Red)	Exposure Increase in Stops*
.05	CC-05Y	.....	CC-05M	1/3	CC-05C	1/3
.10	CC-10Y	1/3	CC-10M	1/3	CC-10C	1/3
.20	CC-20Y	1/3	CC-20M	1/3	CC-20C	1/3
.30	CC-30Y	1/3	CC-30M	2/3	CC-30C	2/3
.40	CC-40Y	1/3	CC-40M	2/3	CC-40C	2/3
.50	CC-50Y	2/3	CC-50M	2/3	CC-50C	1

Peak Density	Red (Absorbs Blue & Green)	Exposure Increase in Stops*	Green (Absorbs Blue and Red)	Exposure Increase in Stops*	Blue (Absorbs Red and Green)	Exposure Increase in Stops*
.05	CC-05R	1/3	CC-05G	1/3	CC-05B	1/3
.10	CC-10R	1/3	CC-10G	1/3	CC-10B	1/3
.20	CC-20R	1/3	CC-20G	1/3	CC-20B	2/3
.30	CC-30R	2/3	CC-30G	2/3	CC-30B	2/3
.40	CC-40R	2/3	CC-40G	2/3	CC-40B	1
.50	CC-50R	1	CC-50G	1	CC-50B	1-1/3

*These values are approximate. For critical work, they should be checked by practical test, especially if more than one filter is used.

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To Advertise—

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Professional
Motion Picture Films
Are Worth Advertising

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Are The Best
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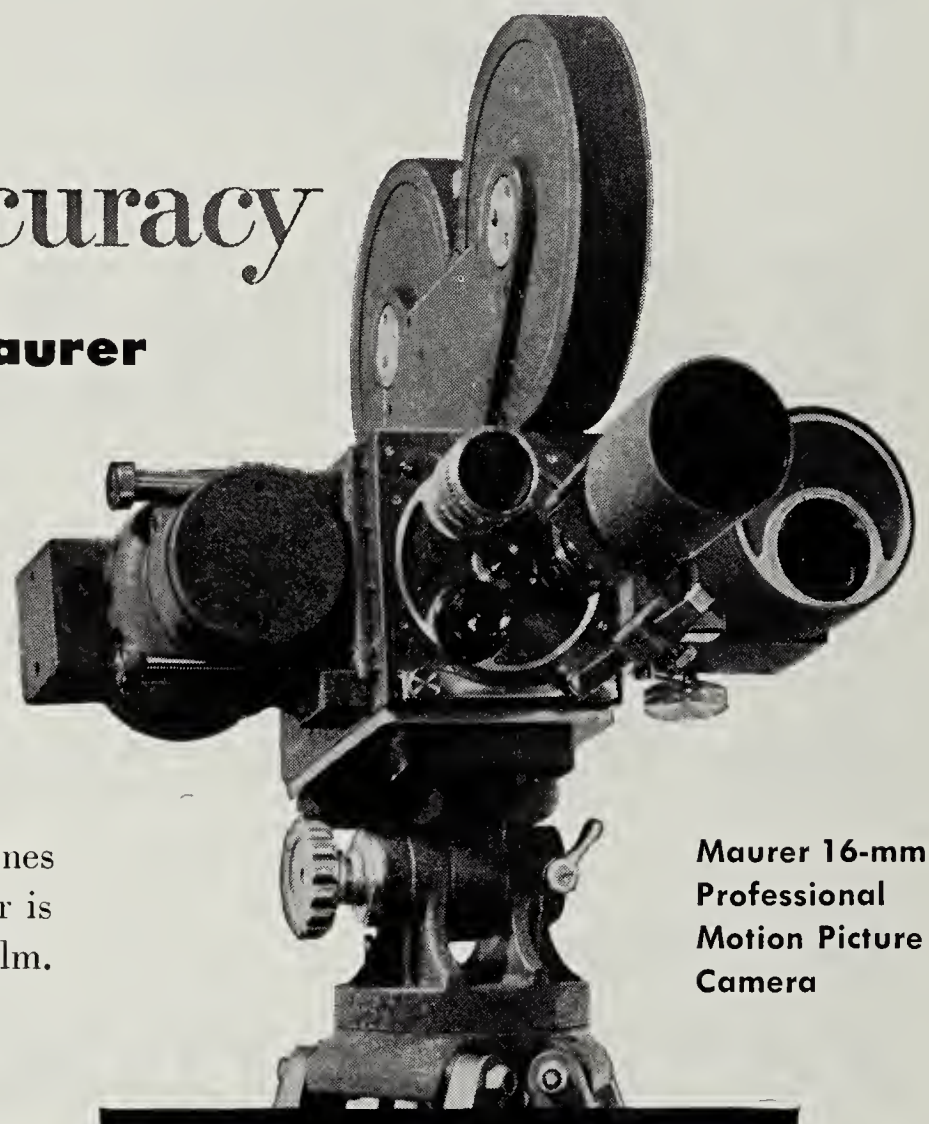
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It Pays To Use
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FILMS—

J. E. BRULATOUR, INC.
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You secure

Maximum Accuracy

only in the 16-mm Maurer



Maurer 16-mm Professional Motion Picture Camera

The accuracy of his camera equipment determines how completely the professional photographer is able to transfer his skill and experience to film.

The Maurer is the most accurate professional 16-mm camera made because of its distinctive features of design and construction, including —

1 The new Maurer critical focusing system that is many times more accurate than any other available.

2 The new Maurer intermittent movement which is appreciably more accurate than the best previous type of movement — so that picture images are really rock-steady.

3 The new Maurer finder which provides automatic, accurate parallax correction and the largest and clearest image of all erect image view finders.

Any compromise from these exacting standards of design that assure maximum accuracy makes the finest results more difficult, and sometimes impossible, to obtain.

16mm maurer

A new catalogue of Maurer post-war equipment will be furnished on request.

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37-07 31st Street, Long Island City 1, N. Y.

Professional Motion Picture Cameras and Recording Equipment for the Production of Industrial, Educational and Training Films



PLANNING PAYS — Carefully plan your vacation movies in advance, then shoot them so they will show visually the things and actions you would describe if someone asked you what you did. The test of a good home movie lies in the reaction following its screening.

Budget Your Ideas For Better Vacation Movies

By FREDERICK FOSTER

DID YOU ever think of putting your vacation movie making on an *idea budget?* The trouble with a lot of vacation films is that the result on the screen often fails to reproduce what the vacationing filmer really wanted to capture with his camera. Instead of showing the things he wanted to remember — the things that made the particular place he visited, or the particular thing he did, different from anything else — his camera often catches only ordinary things, people and events that might just as well have been filmed anywhere — if they should, indeed, have been filmed at all. In effect the budget of film footage which the filmer set up for himself has been squandered recklessly on non-essentials.

The budget idea in filming is fundamentally sound, but if it is to work satisfactorily it should be extended to cover not alone the film used but the subjects filmed.

Every motion picture has, or should have, a story to tell; not necessarily a dramatic plot with heroes, villians and clinches, but something that can answer one or more of these simple questions: "Where?" "What?" "Who?" and "How?" Every movie that is worth looking at must answer at least one of them. Fortunately, every imaginable type of vacation can be classified under one of these four headings.

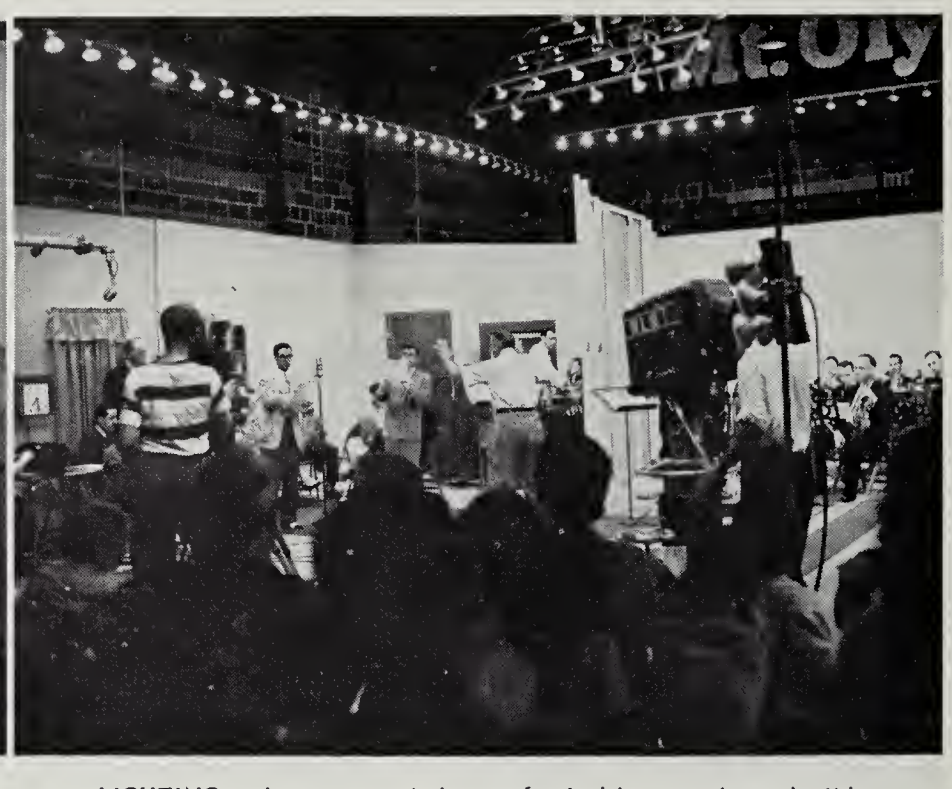
The way, then, to start off on this business of budgeting your vacation-film ideas is to sit down and decide whether your vacation memories will be most concerned with the "Where?" of the vacation, the "What?" the "Who?" or the "How?" Once you know that you can immediately tell what your vacation camerawork ought to concentrate on.

You will in all probability have determined already how much film you wish to shoot and whether it will be black and white or color. From past experience you will have a pretty fair idea of the allowances to be made for your own

(Continued on Page 298)



A CINE CAMERA records the technique of photographing an interview-type of program for television at WLWT for the 16mm. picture "Television—The New Look In Entertainment."



LIGHTING and camera techniques of television are shown in this scene of a studio broadcast from station WLWT, Cincinnati. The author's camera carefully details the procedure for the layman.



1



2



3

Story Of Television Filmed In 16mm.

By LOUIS W. BARNETT

YOU MIGHT term this picture—*Television, The New Look In Entertainment*—a one man 16mm. film production, for it is virtually that. I wrote the scenario, shot all the film, handled lighting of all interiors, edited the picture, wrote the commentary and handled the production in the recording studio.

After many months of preliminary experimental work, WLWT, Ohio's first television station, became "commercial," which means that its programs and air time were now available for commercial sponsorship. Television was enthusiastically accepted in Cincinnati, as elswhere. The layman, however, had little or no idea how TV operated or how its programs were organized and put on the air. I was conscious of a need for showing the public how this newest of entertainment mediums worked, and it was then that my idea for making a 16mm. motion picture portraying the operation of the station, the use of equipment and the presentation of shows, etc., was born.

I believed that it was essential to produce the picture entirely from the layman's point of view instead of from the purely technical viewpoint. I planned my scenario accordingly: showing in progressive form various groups of technicians at work; the film

(Continued on Page 300)

1—REHEARSAL—the author, seated beside the TV camera, rehearses a musical program before putting it on the air over WLWT. The functions of cameraman, sound man and other technicians are explained.

2—MOBIL UNIT of WLWT is shown in action, photographing for the station's video programs such events as baseball games, races, wrestling, etc.

3—BEHIND THE BATTER, high up in the grandstand, the author's camera captured shots of the station's TV cameramen covering a ball game at Crosley Field, home of the Cincinnati Reds.



FS-10-N

for sound shows in homes and small auditoriums

FB-40

capable also of showings before sizable audiences

SUPERB OPTICS . . . UNSURPASSED SOUND ★

SOUND KODASCOPE PROJECTORS

Two fine Sound Kodascope Projectors to show your films brilliantly . . . with wonderful detail and clarity . . . with unmatched sound quality and tonal range.

Similar in basic features—like the three detailed below—FS-10-N and FB-40 differ in amplifier output. FS-10-N's Single-Speaker Unit handles 10 watts of power—ample for homes and clubrooms. The Twin-Speaker Unit increases FS-10-N's range—the two 12-inch speakers accommodate its full output . . . and let you show sound films in small auditoriums as well.

If, however, your need is for a projector that provides power sufficient for large auditoriums, too—FB-40 is your outfit. Its 40-watt output—*unequalled by any other portable projector*—makes it ideal for such sound showings. But FB-40's usefulness is by no means limited to auditorium projection. Because any sound reproduction is improved when the amplifier is driven at less than full capacity, FB-40's vast reserve contributes directly to better sound *at all volume levels.*

Plan to see your Kodak dealer soon about these fine projection outfits...Sound Kodascope FS-10-N and FB-40 Projectors.

NOW at new LOW prices . . .

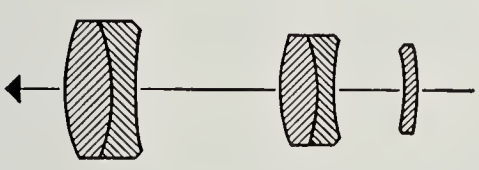
Both projectors supplied with 750-watt lamp, Kodak Projection Ektanon 2-inch *f*/1.6 Lumenized Lens, complete in two cases:

FS-10-N with Single-Speaker Unit	$345
with Twin-Speaker Unit	395
FB-40 with Twin-Speaker Unit	495

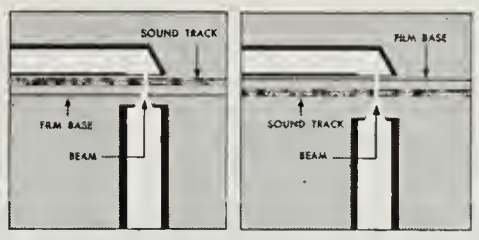
★SOUND KODASCOPE PROJECTORS Give You ALL THREE of These Important Features



FLICKERLESS MOVIES The three-bloded shutter makes o camplete revolution every frame . . . produces 72 light interruptions per second ot sound speed. As a result, your screenings ore free from flicker even ot maximum brightness—far beyond the five-foot-lambert minimum of acceptobility. Here's o truly remorkable safety factor—screenings con have a brightness in excess of a *thousand* foot-lomberts without producing distrocting flickerl



OVER-ALL SHARPNESS Integrol with the standard *f*/1.6 projectlon lens is Kodok's unique field flattener . . . on optical device that serves to correct the curved imoge normolly projected by Petzvol-type projection lenses, so that the whole image cames inta sharp focus at the some plone. You'll see the result on your screen—unsurpassed uniformity of definition. Your movies ore os you like them—shorp in the center . . . sharp In every cornerl



TOP TONAL QUALITY The Fidelity Control makes possible reproducing the full tonal scole—especially the hord-to-hald "highs" thot ore so essentiol to intelligibility of speech . . . noturolness of music. Whether the emulsion is threoded toword or awoy fram the light beam os in the sketches obove...whether you're running originols, 16mm. prints, or reductlons from 35mm. film—the Fidelity Control permits eosy, occurate focus of the scanning beam.

EASTMAN KODAK COMPANY

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Ralph Gray, Number One Movie Amateur



CINE WORKSHOP — The trailer coach in which Gray travels is outfitted with the latest film editing equipment, plus storage facilities for his camera and projector. On walls are certificates and plaques awarded Gray for his movie making achievements.

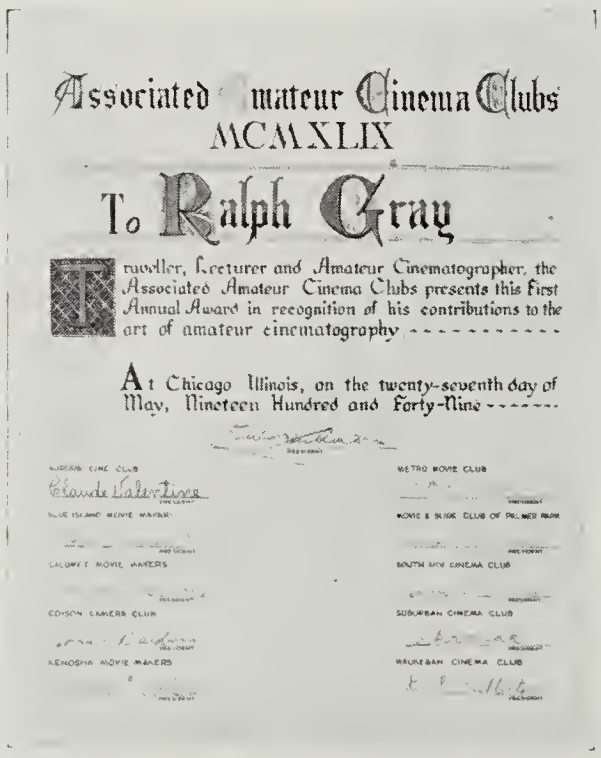
"Get out of doors, acquire a hobby," said his doctor. Gray chose photography, has won more awards than any other cine amateur in U. S.

By LEIGH ALLEN

IF YOU'RE ever asked on a quiz show who is America's leading amateur movie maker, here's the answer: He's Ralph E. Gray, formerly of Mexico City and now a trailer nomad touring the U. S., one hand on the steering wheel and the other on the trigger of his Cine Kodak Special.

Gray has achieved this undisputable position by reason of the many awards heaped upon him in recent years for his 16mm. color films. He is the first and only amateur cine photographer to win twice the Hiram Percy Maxim award, bestowed on movie amateurs for outstanding films. In addition, his films five times have been among the Ten Best awarded recognition by the Amateur Cinema League, have garnered awards in other national amateur movie contests, too.

Gray says he was "needled" into taking up photography as a hobby years ago, when ill health forced him to give up a lucrative job as sales manager for a big cosmetics concern. "Get out of doors, acquire a hobby," said his doctor, and Gray went off to Mexico with a still camera for a ten-days stay. At once fascinated by the people and the sights of the land, Gray lingered five months, then returned to the states with a satchel full of stills he had photographed. But these pictures didn't tell the story he hoped they would. A camera store salesman



Associated Amateur Cinema Clubs
MCMXLIX
To Ralph Gray

Traveller, Lecturer and Amateur Cinematographer, the Associated Amateur Cinema Clubs presents this First Annual Award in recognition of his contributions to the art of amateur cinematography

At Chicago Illinois, on the twenty-seventh day of May, Nineteen Hundred and Forty-Nine

ONE OF several scrolls tendered Gray by movie clubs in recognition of his contributions to the art of amateur moviemaking.

suggested he try movies and Gray went back to Mexico with a cine camera. Thirteen years later he returned to the U. S. —"permanently," he said then—but he's presently thinking of going back. "The place gets under your skin," he says.

During those thirteen years, Gray shot countless hundreds of feet of 16mm. Kodachrome. He was in the enviable position where time and money meant virtually nothing to him. He had come out of the depression with enough money to "get by on" for the rest of his life. Retired, he could devote all his time to the newly acquired hobby of photography. Thus it was that Gray, as his photographic skill improved, began to make better films. Like all beginning amateur movie makers he thought his movies were simply swell. He sent the first ones to the Amateur Cinema League in New York. ACL officials reviewed them, sent them back with polite suggestions for improvement. Gray, appreciative of the criticisms, considered the suggestions carefully, then went out with his camera and tried again. Eventually, after many similar efforts, he came up with a picture that clicked. This was in 1937 when his film, "Primitive Patzcuaro," won a Ten Best award in Amateur Cinema League's annual competition.

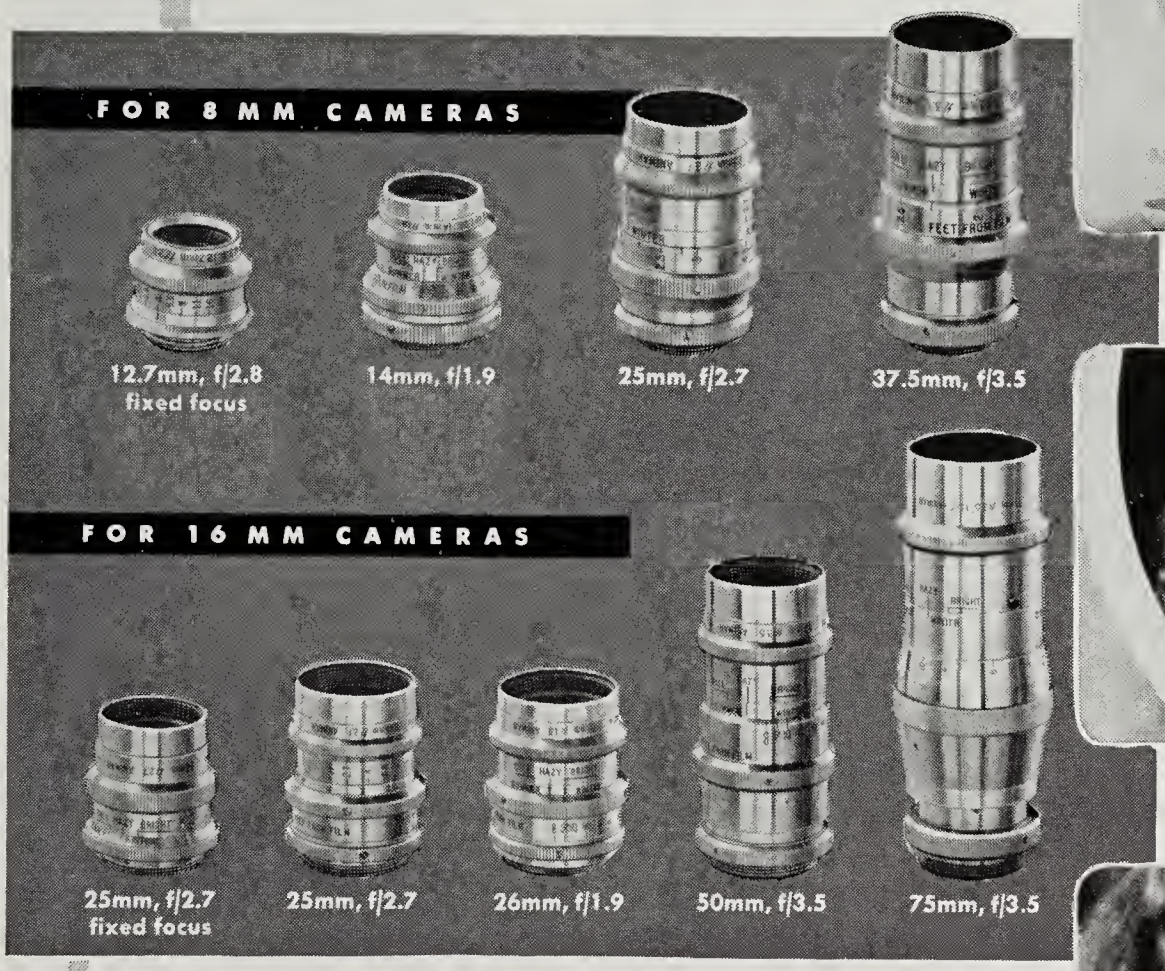
A year later he clicked again with "Mexican Fiestas," which netted him his first Hiram Percy Maxim Award. This film also was selected by the National Geographic Society to open its

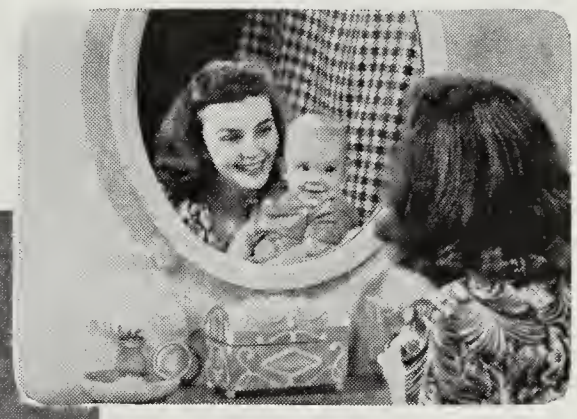
(Continued on Page 304)



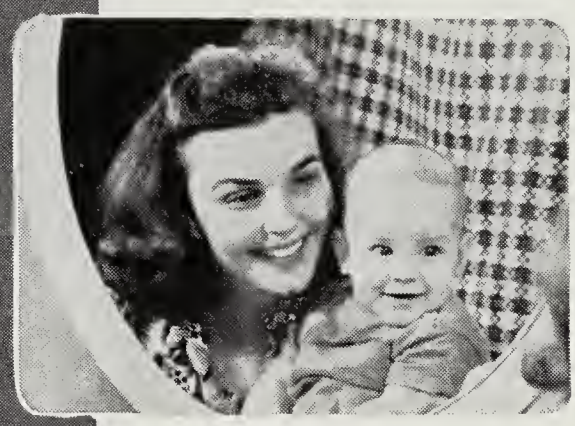
BEST KNOWN for his films on Mexico, Gray's most renowned work is the 16mm. color documentary, "Paricutin," picturing birth and growth of the Mexican volcano.

"For professional quality in Your movies"

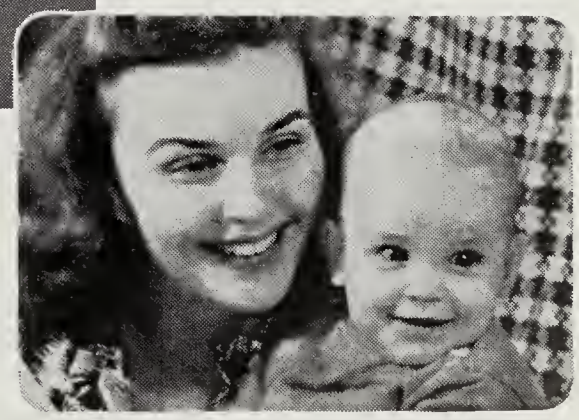




For normal shots



For middle shots



For telephoto shots

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8mm and 16mm

ANIMAR LENSES

Cine Kinks for Movie Amateurs

NEED A LARGER SCREEN for your movies? Mount a bed sheet, ironed smooth, on a curtain stretcher. Sheet can be drawn taut and made wrinkle-proof by carefully fastening it to pin points on stretcher frame.

●

DOBULE-EXPOSED SHOTS are simple to execute if made at beginning of roll of film. Mark start mark directly on film, by removing camera lens and making pencil mark on film. First be sure to allow film to run beyond the serial perforations or leader length. Shoot first exposure, wind back film to beginning with lens capped, then remove lens again and run film until pencil mark appears. At this point, start your second exposure.

●

TITLE LETTERS of unique design for main titles can be cut out of thin sheets of balsa wood with a razor blade.

●

A SIMPLE TRANSITION consists of having a person walk right up to camera lens while camera is running, to black out the scene, then walk away from lens to open the following scene. The camera is stopped, of course, after initial "blackout."

●

DRILL HOLES about 3" apart through side of a discarded wooden dress hanger, insert 12" lengths of wire in holes to provide a handy, space-saving rack for short lengths of movie film that has been processed or developed.

●

TO PROJECT LARGER pictures with your present projection lens, fit an extension tube, three to five inches in length, in front of lens and attach an 8 diopter spectacle lens over front of the tube, using cement or scotch tape.

●

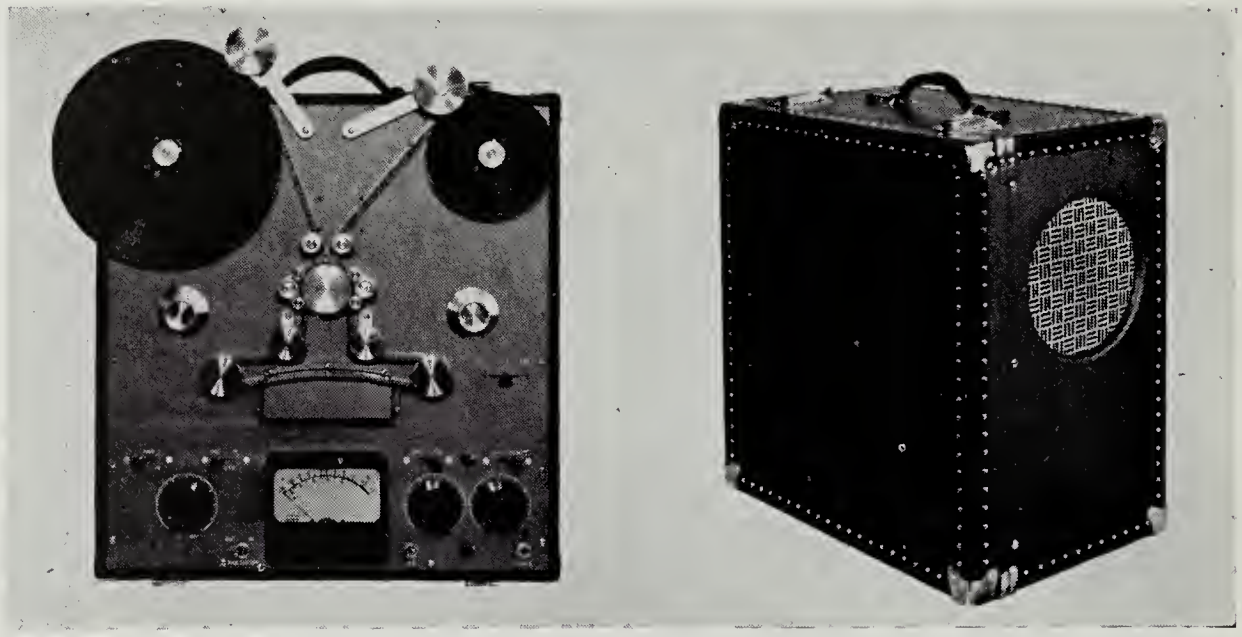
MOST EXPOSURE METERS can be made to read f/ stops directly by placing a piece of adhesive tape over the dial glass and marking the corresponding f/ stops with pen and ink.

●

AN EFFECTIVE, PORTABLE floodlight unit for shooting movies indoors can be made from an inexpensive suitcase. Line interior of case (except lid) with aluminum foil, obtainable in rolls at dime stores. Mount three or four lamp sockets within case to take photoflood lamps. Extend wires from each socket to a single cable extended outside case.

Kinevox Is Newest Of Magnetic Film Recorders

Designed expressly for recording sound for professional motion pictures, the Kinevox has many exclusive features.



TWO VIEWS of the new Kinevox synchronous magnetic film recorder ready for use, with all controls centralized on front panel (left), and the single-case unit closed (right). Designed especially for recording sound for motion pictures, the Kinevox is ideal for either sound stage or location work.

DESIGNED and manufactured by motion picture men especially for the motion picture industry, the Kinevox is the newest of synchronous magnetic film recorders for recording sound for 35mm. and 16mm. films. It may be operated in synchronization with any 35mm. or 16mm. synchro-motor driven cameras.

The Kinevox Corporation, makers of the recorder, is headed by Len Roos, A.S.C., builder of sound recording equipment since 1929; William T. Crespinel, former head of the Cinecolor Corporation, and Ben Levin.

The Kinevox is virtually the end result of research and development by nine engineers, according to Roos. "A detailed survey was made among the leading sound engineers and technicians of Hollywood studios," said Roos, "to determine what features they most desired in a magnetic recorder. This aided materially in the ultimate design of the Kinevox."

Now that magnetic recording has been developed to the point where it is considered every bit as good, or even better than, optical recording, it is being used increasingly by major studios as a time, film and money saver. Ultimately, it is expected that magnetic recorders such as the Kinevox will supplant optical recording apparatus for motion pictures altogether.

Current cost of magnetic film used in the Kinevox is $20.00 to $30.00 per thousand feet cheaper than the cost of 1000 feet of processed sound track negative, plus 1000 feet of print therefrom. Actually, according to Roos, the savings the Kinevox makes possible on a single major film production will more than pay for the recorder.

The Kinevox is a compact single case unit with an overall measurement of 18" by 17" by 11", making it ideal for use in remote or difficult locations. Net weight is approximately 50 lbs. Because of its compact size, it is easily accommodated in the trunk compartment of an automobile.

Among salient features of the Kinevox are: It records on 17½mm. (slit 35mm.) oxide coated film, perforated for standard 35mm. film sprockets. Film speed is 90 feet per minute. It has convenient forward and reverse switch that affords immediate erase of NG takes and permits minor editing.

Frequency response is said to exceed the Academy motion picture standards. Non-magnetic stainless steel parts insure highest quality performance, according to Roos, who emphasizes that recorder was especially designed for motion picture film recording and is not a re-designed tape recorder. *(Continued on Page 294)*

It Took 9 Engineers

to design, develop and perfect the new

KINEVOX

Synchronous

Magnetic

Film Recorder



Designed Especially for Motion Picture Film Recording — Not A Re-Designed Tape Recorder

- Records on 17½mm. (slit 35mm.) oxide coated film, perforated for 35mm. sprockets. Speed 90 feet per minute.
- *Forward and reverse switch — affords immediate erase of NG takes, and minor editing.
- Frequency response exceeds Academy motion picture standards.
- *Special salient pole synchronous dynamically balanced motor.
- Special low-current erase head and circuit insure against erasing failure.
- High and low pass filters built-in for re-recording, insure maximum in professional sound quality.
- *No reels or flanges required.
- Built-in speaker affords monitoring either incoming signal or actual recording from film 1/15 second later.
- Supplied in either portable case, or for rack and panel mounting.
- *Interior of case specially soundproofed against mechanical noise.

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25 YEARS AGO

With A. S. C. And Members

• Dan Clark was shooting "The Love Bandit" at Fox, a Tom Mix feature which included Esther Ralston as the femme lead.

• Ernest Haller was chosen by director Al Santell to photograph "Empty Hearts," a six-reel feature starring Clara Bow, Charlie Murray and John Bowers.

• Henry Cronjager was sent to New York by Paramount to film an untitled picture starring Bebe Daniels and Richard Dix.

• Henry Sharp, under guidance of Hunt Stromberg, was shooting "Tiger Thompson," starring Harry Carey. Reaves Eason was the director.

• Jackson Rose *was sent to Big Bear* Lake by Universal to shoot scenes for "The Measure Of A Man," directed by Arthur Rosson and starring William Desmond. Incidentally, Mary McAlister, who was playing opposite Desmond, was a familiar face to Rose who used to photograph her when she was playing baby parts as "Baby McAlister" at the old Essanay studios. According to Rose, he had previously filmed 50 features in which McAlister was featured as a child.

• John Arnold was shooting scenes for Metro's "The Beauty Prize" in the early day KFI broadcasting studios in Los Angeles. Viola Dana was the star. Picture reportedly was her last starring vehicle.

• John Seitz's photography on Rex Ingram's "The Arab" was being lauded in New York City following premiere showing of picture at the Capitol theatre.

• Roy Overbaugh was on the Florida coast with director John Robertson for the Dick Barthelmess starrer, "Classmates." Company later went to New York to shoot interiors for the picture.

• Sol Polito, chief cinematographer for Hunt Stromberg Productions, was shooting "The Siren of Seville," starring Priscilla Dean, at the Thomas H. Ince studios in Culver City.

• E. B. DuPar was under contract to Stereoscopic Productions of Sacramento, Calif., which company controlled unique patents for producing stereo motion pictures. The first film was titled "Head Over Heels," directed by G. A. Lambert.

Roos states that the quiet operation and manueverability of the Kinevox make possible its use within 25 feet of the microphone.

Now in production in the company's new factory in Burbank, Calif., the Kinevox recorder is priced at $1250.00. Where the portable case model is not desired, the recorder is also available for rack and panel mounting.

DO'S AND DONT'S FOR TV FILM PHOTOGRAPHY

(Continued from Page 283)

really fine enough to guarantee truly sharp focus, that the tube loses many of the half-tones of the subject and therefore exaggerates its contrast, and that the programs are viewed in the home under lighting conditions which are frequently less than ideal.

With these facts in mind, we must reach a compromise in filming in order to achieve the best result. Lighting is the basic problem, and it can be said in general that a relatively even quality of high-key illumination is the best for photography of TV films for present conditions. Unfortunately, many of the best effects used in the theatre film are lost on the television tube. These include atmospheric low-key scenes, night scenes, and firelight or candlelight scenes. Until the video mechanism is improved to the point where it can reproduce more satisfactorily subtleties such as these, it is best to stick to the less dramatic but more technically acceptable style of even, high-key lighting.

As we have already pointed out, the television tube loses many of the more subtle half-tones of the original subject, creating what amounts to an increase in contrast. To compensate for this exaggeration of tonal values, it is best to avoid extreme contrast both in the design of sets and costumes and in the lighting of subject matter. Light gray against dark gray will reproduce as white on black—whereas, when actual black and white are used together there is the probability of one of the colors "bleeding" into the other. Since a great deal of filming for television is done in 16mm. color, it is advisable for the cinematographer to train himself to recognize various colors in terms of their black and white tonal values when reproduced on the video tube. A certain amount of trial and error will be necessary before this faculty is developed.

Simplicity should be the keynote of all filming for television, since fine detail is wasted on the tube. Keep this in mind when designing sets and costumes. Intricate designs will "mush out" and too much action in the background will be distracting because of its very lack of clarity, if for no other reason.

The desire for simplicity should extend also to the use of certain special effects which are used to excellent advantage in the film produced for theatre screens. Here again, it is purely a matter of the video tube not having the inherent scope to reproduce such effects advantageously. Simple superimposures are permissible, but complex montages with three or four images piled one on the other should be avoided. Even the convenient lap-dissolve can cause a certain confusion if it is prolonged. Because of the inherent lack of sharpness on the video tube, as well as the smallness of the screen itself, special effects should be kept simple and used sparingly. Dissolves should be kept short, and fade-outs should be avoided unless absolutely necessary.

From the camera point of view there are certain taboos which must be observed for best TV film results. First, the camera should be kept in fairly close most of the time. Long shots are generally unsatisfactory because of the reasons noted above, and they should be held to an absolute minimum—especially where the action is complicated. On the other hand, disembodied close-ups are also unsatisfactory, and it is therefore necessary that the context of these close shots be re-established from time to time by means of medium shots or medium long shots. It is interesting to note that a stylized technique is developing by means of which entire stories are told in terms of close-ups. Whether or not this technique will prove monotonous remains to be seen.

Because of the fact that the video tube is a curved surface, a certain amount of distortion at the edges is inevitable. This means that all important action should be kept centered. Generally speaking, the center two-thirds of the tube is free of distortion and it is wise to keep the action centered within this area whenever possible. This principle applies also to titles, especially to moving scroll titles.

For the same reason, ninety degree pan and tilt shots should be avoided, as this type of movement accentuates the distortion at the edges of the frame. Push-in and pull-back shots, if executed smoothly and not too rapidly, are effective in television filming and add variety to the presentation.

From the standpoint of direction,

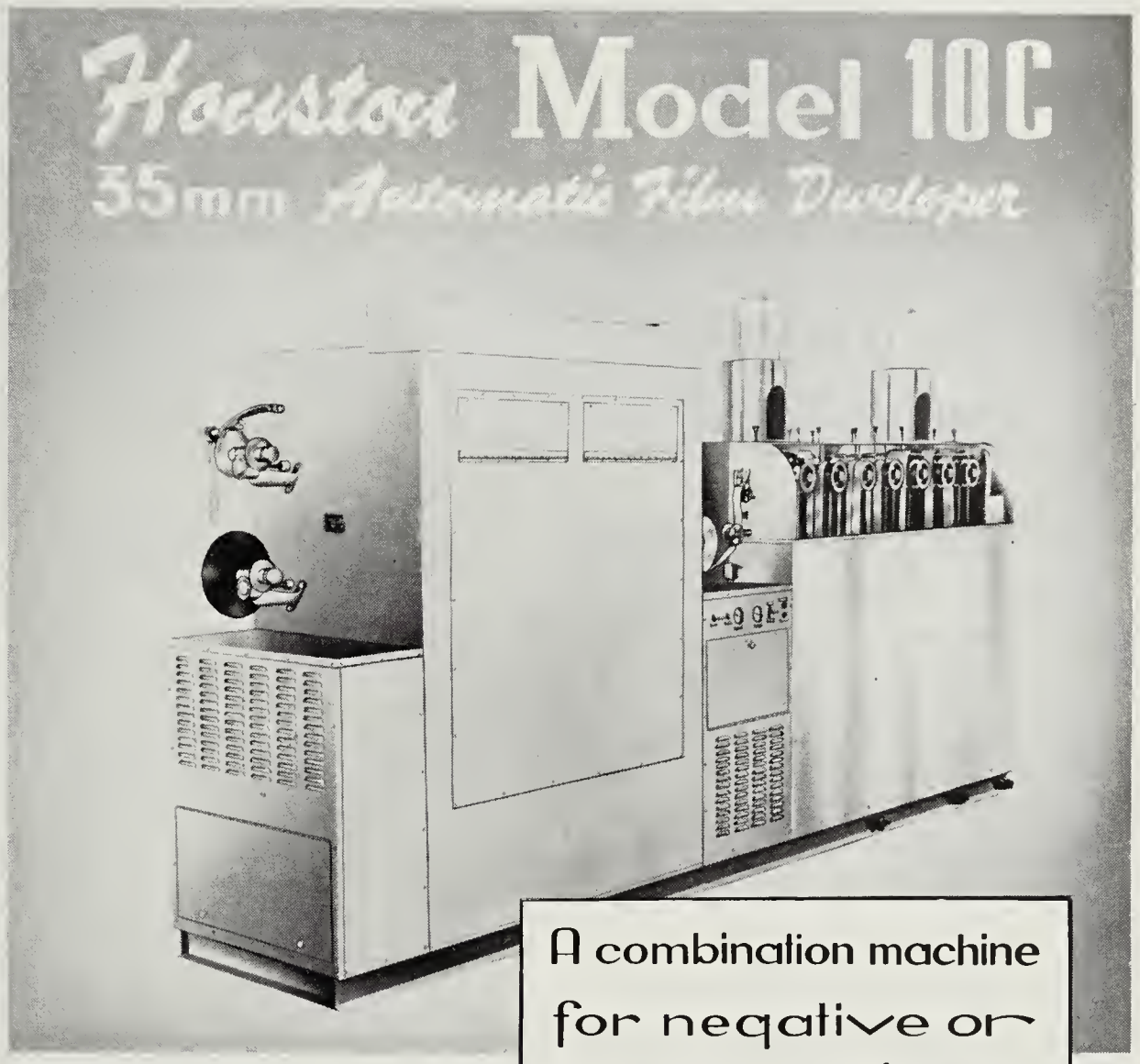
there are certain very definite factors which must be considered in filming. First, while it is granted that it is sometimes necessary to show crowd scenes for establishing purposes, it is also true that this is one type of scene which does not reproduce to best advantage on the tube. It is better, whenever possible, to sacrifice a bit of production value in favor of clarity—so, instead of a "cast of thousands," hold the number of people within your scenes to a minimum and try to keep their action from becoming too complicated.

Remember that television is an *intimate* medium—that it brings a visual program right into the spectator's home. Said spectator will be sitting up rather close to the set giving the tube his undivided attention. This means that the pace and action of the television film should be somewhat exaggerated. Keep your picture moving. The spectator becomes bored by static scenes and slow-moving action. If he becomes bored enough he will reach for the dial and tune in another channel.

Pace in filming is not simply a matter of staging the action to a certain tempo —it also involves correct cutting. Here again, static scenes should be cut to the bone. A staccato inter-cutting of action with reaction shots will help to keep the pace moving and the audience interested.

Just a word should be said here regarding the recording of sound by television films. Every time sound is re-recorded it loses some of its basic quality. In the assembling of a sound track for a film, the final track is often the product of two or three re-recording processes with a consequent proportional loss of quality. Therefore, motion picture sound at best is inferior to direct sound from a live action television show. While television sound is broadcast over FM channels which offer superior sound fidelity, it is still next to impossible to improve upon a basically poor original film sound track. It therefore behooves the producer to get the very finest sound available for the films which he intends using on television.

The production of films for television already bids fair to become a very large and important business. In these days of trial and error in the industry it is well to appreciate what can and cannot be done satisfactorily in shooting this type of film. Until the mechanical scope of the medium itself can be widened, the discerning producer will work within the admitted limitations to turn out interesting, educational and commercially acceptable film subjects for video.



The Houston Model 10C is a precision-built, fully automatic developing machine that enables the laboratory to handle both negative and positive films alternately without changing solutions. Two developer tanks are provided, one for the negative, the other for the positive solution. Processes negative film 600 to 1200 feet per hour; positive film 1200 to 2400 feet per hour. Write today for illustrated brochure.

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164 N. Wacker Dr., Dept. A, Chicago 6, Ill.

COLOR COMPENSATING FILTERS SIMPLIFIED

(Continued from Page 284)

is the same as the old CC filters. These CC filters for use in obtaining cooler and warmer results—CC3, CC4, CC5, CC6, CC13, CC14, and CC15—will still be obtainable as will be the CC95. The new filters will be available in the standard, lacquered gelatin-film squares, but they can also be obtained in mounted discs for use with Kodak ombination Lens Attachments.

The chart on page 284 gives the approximate exposure increase that should be allowed with each of the new filters.

OTHER TYPES OF KODAK COLOR COMPENSATING FILTERS AVAILABLE

Bluish Filters (for cooler rendering)	Exposure Increase in Stops*	Yellowish Filters (For warmer rendering)	Exposure Increase in Stops*
CC3	1/3	CC13	1/3
CC4	1/3	CC14	1/3
CC5	2/3	CC15	1/3
CC6	1		

*These values are approximate. For critical work, they should be checked by pratical test, especially if more than one filter is used.

CC95 filter is available in addition to above. It is recommended for use with Kodak Ektachrome Film, Type B, and clear G.E. flash lamps.

THE NEW NORD CAMERA

(Continued from Page 282)

absolutely positive registration. The film feeding finger enters the perforation straight; it then moves with the film straight down, stopping at the bottom of the stroke and withdrawing straight out. The film feeding finger is ground and lapped to a perfect fit in the perforation. The entire movement is driven by a single cam. Both the cam and film feeding finger are made of hardened tool steel and the parts are extremely light (film feeding finger weighs approximately 20 grains). Even this weight is carefully balanced so that the entire film feeding mechanism is exceptionally free from vibration.

One of the most important features in the Nord Camera is the self-engaging action of the feeding finger. Heretofore it has been necessary for considerable care to be taken in lining up the perforation with the point of the claw. Whenever this was not done in threading, the claw would punch holes in the film, causing the camera to jam. This might occur due to faulty threading or between takes if the film should shift slightly in the gate.

In the Nord Camera this is impossible. In threading the camera if film happens to be placed in gate so that the claw does not line up with the perforations, a safety spring in the mechanism causes it to continue its normal vertical movement without driving the claw through the film. As the claw is moved down it drops into the first perforation and continues the normal feeding cycle. Since the film is brought to a dead stop by the film feeding finger, only a light gate pressure is required and this considerably reduces the danger of scratching.

The aperture plate of the Nord Camera can be easily and quickly removed from the camera to permit thorough cleaning of the surface on which the film rides and also the photographic aperture. Thus the cameraman can be positive that there will be no "whiskers" around his picture. This is a feature that has long been needed.

A valuable feature in the Nord Camera is the wide shutter opening provided. The light is obscured for only 1/3 of the cycle so that the exposure is 1/36 of a second when shooting pictures at sound speed. Working under adverse light conditions this longer exposure often means the difference between success and failure. Shots in factories can be made with 1/3 less artificial light. Two lighting units do the work of three.

The shutter is of the fixed type since it is modern practice to insert fades at the laboratory. The shutter racks over with the mechanism so that in viewing position the shutter can never interfere, and consequently does not have to stop in open position. This is especially important in animation work since it makes it possible to throw the camera over into viewing position whenever desired without losing a frame.

Both reel spindles in the Nord Camera are equipped with clusters to permit automatic take-up in either direction

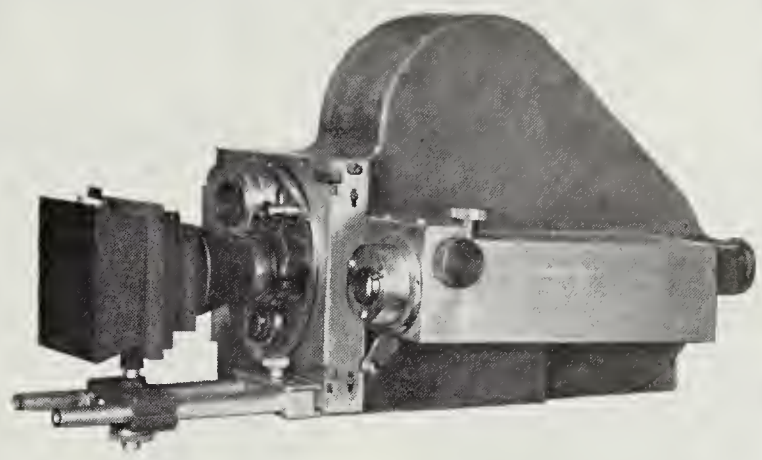
without changing belts. The camera may be driven either by hand crank or motor. A single frame shaft is also provided so that animation work can be handled. On the Nord Camera the gear box is a separate unit from the motor so that the same gear box will serve a variety of motors and it is not necessary to pay for a gear train for each motor.

The gear box has a turnover knob with a small notch in the edge, which enables the operator to tell by feel whether the claw is engaged or free of the film. The operator need not look at either the claw point or the knob to know exactly where he is—a great aid in simplifying threading in poor light conditions.

A plunger operated by the rack-over mechanism permits using a micro switch to control the camera motor. This makes it impossible to run the camera under power unless it is racked into photographing position. However, this arrangement is optional, since some operators prefer to be able to rack over momentarily for a last minute inspection after the motor is started.

A footage counter of the reset type is provided as well as a frame counter. There's an automatic safety release between the motor and the gear box so that in case of trouble the motor drive

The NORD



A completely NEW 16mm. Professional Camera

The many new features built into the Nord camera are not just talking points. They make possible sharper and better pictures.

To the man who is always seeking practical ways to improve his work we would like to send, without obligation, an informative new booklet "Making Better Films."

Invitation showings of the new Nord camera for the profession will be arranged soon in major cities.

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PORTABLE SYNCHRONOUS MAGNETIC RECORDER

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- The B-22 amplifier has a two channel mixer and dialog equalizer.
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- *Can be transported in two units (suitcase size).
- Signal to noise ratio, minus 55 db; frequency response flat from 30 to 10,000 cycles.
- Excellent tone quality and high fidelity.
- Record, play back, and erase heads all in one assembly.
- Finger-tip control; easy to operate; easy to edit.
- Synchronous motors especially designed and constructed to Hallen specifications.

*Note: The B-22 amplifier is contained in a removable unit, permitting space between the record and play back amplifier and the power supply and monitor speaker. This completely eliminates microphonic feed backs usually present when a loud speaker and high gain stages are placed in close proximity.

HALLEN CORPORATION

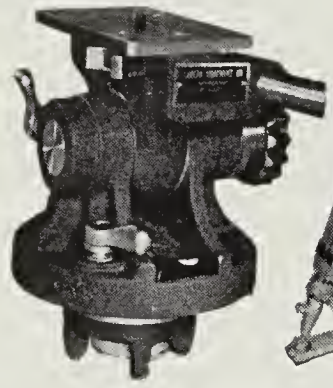
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Interchangeable - Removable Head Tripods

FRICTION TYPE

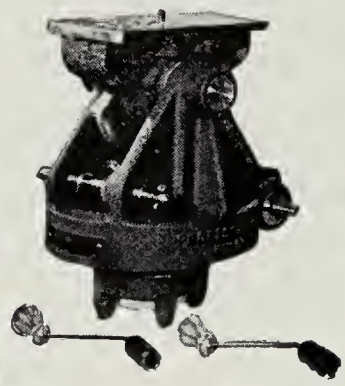
Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with motor and 400' magazine; and all 16mm. hand-held cameras. Head is interchangeable with the Gear Drive head. Both types fit "Professional Junior" standard tripod base, "Hi-Hat" and "Baby" all-metal tripod base.





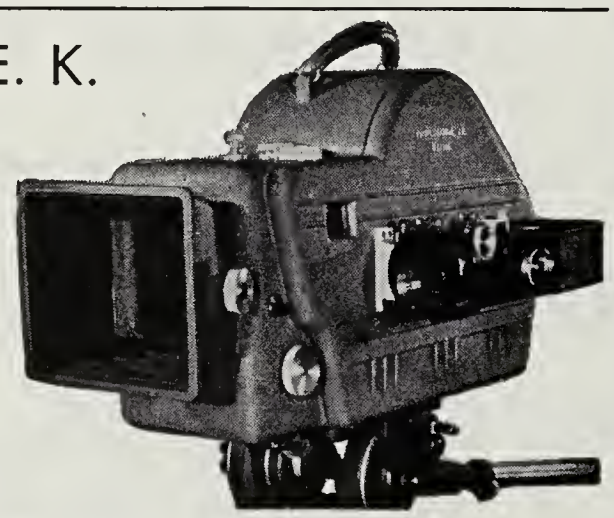
GEAR DRIVE

The head, made of Dow Metal magnesium, weighs but 5½ lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap-on metal cranks control pan and tilt action from both sides. Worm-driven gears are Gov't spec. bronze.



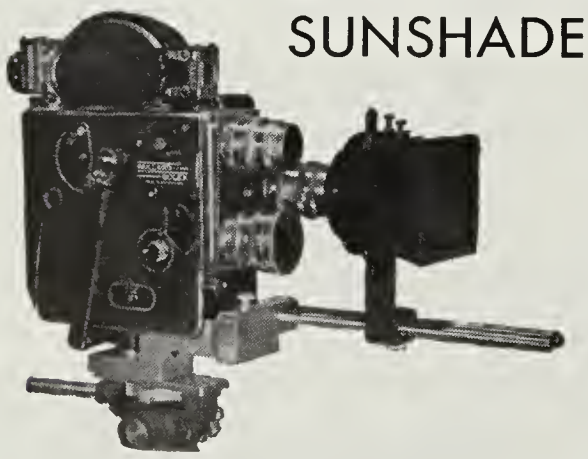
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This Blimp constructed of Dow Metal magnesium, is thoroughly insulated to afford absolute silent operation. Exclusive features: Follow focus mechanism permits change of lens focus while camera is operating in blimp. Blimp takes synchronous motor drive which couples to camera. A dovetail bracket is provided to mount an erect image viewfinder.

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is released. This is an improvement over the old shear pin, since it does not require replacement of any part but is ready to go to work again the instant the load is reduced to normal.

The camera has a four-lens turret with a positive lock pin so that the lens cannot be displaced accidentally. The threaded holes in this turret take the standard C mount lenses, and experienced cinematographers will welcome the fact that these holes are deep enough to accept lenses which will not fit on many cameras of other makes. In fact, they are 33 per cent deeper than certain other makes of cameras.

The camera can be supplied with the studio type ground glass finder if desired, but the Nord Company has designed a new type of finder which has certain interesting improvements. This finder can be set by a turn of a knob to conform to any focal length lens from the extreme wide angle to 8 inch focal length.

This new finder operates somewhat similar to a telecope and provides a brilliant direct image corrected right and left. As the adjustment knob is rotated, a semi-zoom effect takes place; the image itself changes size, so that in telephoto position a good size field is visible. It can be used with wide angle lenses as short as 12½mm. The finder will thus cover the entire range of lenses available today.

BUDGET YOUR IDEAS FOR VACATION MOVIES

(Continued from Page 287)

shortcomings—for NG'd scenes, retakes and the like.

So by now you should know what is to be the main interest of your vacation film, and how much footage you can allow yourself to shoot. Since few movies can confine themselves to exclusively to answering one question, some footage should be allowed for the supplementary answers. Then, if you force yourself to say "no" to every suggestion of filming anything that doesn't have its definite part in the scheme, your film must inevitably tell the story you want it to tell.

The biggest problem, sometimes, is recognizing what kind of a vacation yours is going to be — whether it is a "Where?" vacation, a "What?" vacation, or "Who?" or "How?" This isn't nearly as difficult as it seems, however, if you just take the time to analyze your vacation plans.

Let us suppose you are one of those fortunate people planning a vacation trip to Hawaii. Generally speaking, a trip like this is definitely a "Where?" story. Outside of perhaps a half-a-dozen shots

made on the boat and (if possible) one or two of it, your real story needn't concern itself with any part of the boat trip beyond simply establishing the fact that you sailed from such-and-such a port on such a boat and got to Honolulu. The same routine applies should you go by plane. Unless luck should bring you some unusually interesting shipmate like Betty Grable or Van Johnson, don't waste film on your fellow travelers for they'll probably be forgotten as soon as you've crossed the gangplank.

Once in Hawaii, your real story begins. Remember, you have used up probably 25 feet of your film establishing the fact that you traveled to the islands. The remainder of your shooting now should concern itself with the really characteristic things you see there.

Perhaps your vacation is to be spent out west — at Yosemite or Yellowstone. If you're driving your car, don't waste film with unnecessary shots of packing the car and then of the wheels spinning, etc., to indicate the start of the trip. This is now considered "old hat" among seasoned movie amateurs and the technique definitely dates the filmer's thinking and filming technique. Instead, shoot just enough of the start of the trip to indicate how you traveled, show your arrival at the vacation spot, then concentrate on the "Where?" footage for your story-telling picture.

If on the other hand, the really important thing about your vacation is not so much where you went and how you went there, but *what* you did when you got there, your filming ought to confine itself largely to telling "What." Let's say that you trek to Guaymas, Mexico, for a try at deep sea fishing, to Sun Valley for skiing or to a Colorado dude ranch for a fling at the ways of the west. Your shooting will be concerned with what you and those in your party did at the particular place visited. Here again, use only a nominal amount of film to identify the locale, then make your picture show visually the things and actions you would describe if someone asked you what you did.

And when does the "Who?" take the spotlight as the main interest of your vacation movie? Only when, in describing your vacation, you would naturally stress with whom you vacationed rather than where or how you did it. If, for instance, you visited Hollywood and had the opportunity to hobnob with important movie people there, everyone would be interested in pictures that would show you with these people. Such scenes would probably prove more interesting than any possible shots of Hollywood's scenery.

It is not impossible that fate will occasionally force you also to make incidental shots of some acquaintance or relative—persons likely to be unfamiliar or uninteresting to those to whom you will screen your movies back home. When this occurs, in the case of a "What?",

(Continued on Page 300)

New Hallen Recorder Announced

THE HALLEN Corporation, 3503 West Olive St., Burbank, Calif., announces this month its new model B-22 recorder, a complete new synchronous magnetic tape recorder for recording sound for motion pictures.

Several months intensive research has enabled the company to greatly improve their initial model, according to K. M. Dieter, company engineer. The B-22 features dual microphone inputs, a dialogue equalizer, all miniature tubes, and anti-shock mounts for both tubes and the amplifier.

Radically new design of amplifier and shielding of same permits operation with a signal-to-noise ratio of minus-55 db., according to Dieter. Unique innovation is facility for removing amplifier from cabinet so it may be placed some distance from power supply and speaker as means of totally eliminating feedback.

According to Dieter the recorder's motors have been entirely re-designed and are now being manufactured especially for the Hallen recorder by Bodine Electric Co., leading manufacturers of synchronous motors. Smoother operation is reflected in use of improved motors, he says. "Flutter content has been reduced to between .25 and .30 of 1%."

Citing the increasing use of magnetic recording, Dieter points out one of main reasons is that magnetically recorded sound can be played back immediately after each take, permitting director and technicians to make an immediate check of sound quality, thus tending to reduce the number of "safety takes" necessary.

Dieter says that Hallen recorders are now in use by film producers in Germany, Sweden, Denmark, India, Hawaii, and Burma, in addition to those in use in the United States.

Dieter pointed out that splendid results have been obtained by Louis de Rochemont using a Hallen recorder on his last two productions. He also cited a Hollywood film producer who has recorded sound for some 200 films during the past seven months, using a Hallen recorder, without a single case of failure.



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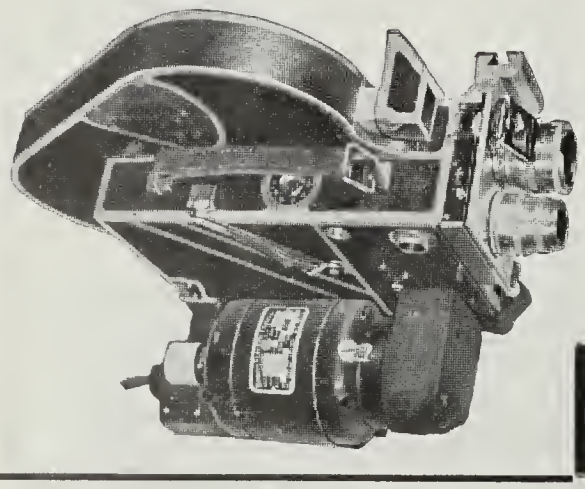
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"Where?" or "How?" movie, try to have the courage to delete such "Who?" scenes from your finally edited picture before they have a chance to bore outsiders who want to see Hawaii, or Yellowstone, or fishing activities at Guaymas rather than Aunt Elizabeth or the shipboard cut-up. This hard-boiled cutting may require diplomatic explaining, but it makes a better, if shorter, picture. But if you'll carefully budget your filming ideas before you start, the same as you would your film, you'll have nothing to explain, no alibis to make.

TELEVISION FILMED IN SIXTEEN MILLIMETER

(Continued from Page 288)

developing room; studio production unit; remote location unit; studio facilities, etc. This was to be the general idea, but it was only the beginning. The planning consumed many days and nights, too. Always bobbing up were such problems as which programs should be included; how much film should be exposed; which shots should be made interiors, and which exteriors; what should be the scene shooting order, etc.

The shooting script was finally completed and typed on filing cards. One card was devoted to a single scene number. It carried description of the scene along with specific camera instructions. A colored tab at the edge indicated whether the scene was an exterior or interior. The cards were perforated and placed in a small pocket-size ringbinder notebook. This was found far superior to the conventional script because the notebook could be carried around in my hip pocket, whereas a clipboard would have been too burdensome and continually in the way.

For eight years I had been an amateur movie maker, shooting movies of my family, etc., so I felt reasonably conversant with the techniques of the 16mm. camera, the exposure meter and photoflood lights. Earlier, still photography had become my off-duty avocation. I went through the whole gamut of still picture making. Later, much of my photography was done in the broadcasting studio where I am employed, and many stars have posed for me. I have had results both good and bad, entered my share of contests, won awards in some, joined a local camera club, succeeded in getting many of my prints published—and then I discovered television.

Just about a year and a half ago, when our city was becoming television conscious, I was offered the opportunity to handle TV production at WLWT. This opportunity was opened to me primarily because of the skill which I had devel-

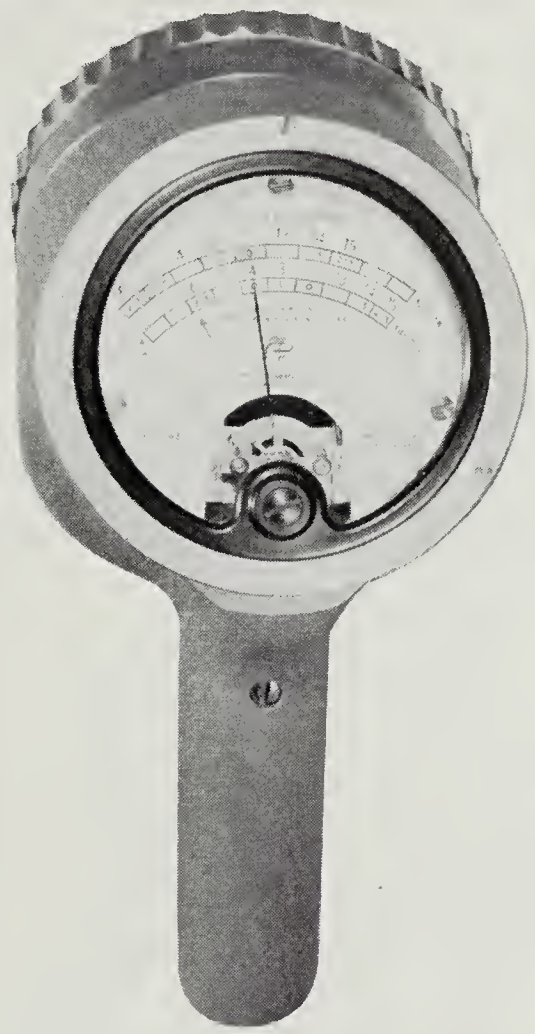
oped and displayed in my amateur and semi-professional photographic activities. At last my hobby was beginning to pay off. I realized now that my course of study in "image management" from my friend Nick Haz had not been in vain. It fell my lot to train a new camera crew in the fundamentals of pictorial composition under actual working conditions, with no time for retakes.

My experience in making 16mm. movies of my family now aided me in the ad-lib editing that is required in photographing television shows while watching the TV monitor scope. In TV production, the director must make quick decisions in selecting the proper picture from one of the several cameras. There's no cutting-room floor for bad takes. Each picture transmitted to the viewing audience must be as nearly perfect as possible. The director, in addition to producing the show from the standpoint of continuity and action, emotion and timing, must constantly direct his cameramen in the selection of proper lenses (for correct image size), angle of view and camera placement, focus, dollying effects and dozens of other technical maneuvers. Then, too, there's the ever-present problem of lighting which isn't always too well placed on remote locations.

In the television studio, providing there's ample rehearsal time and proper equipment, lighting problems are simplified and sets can be illuminated for the best visual effect. Television, unlike motion pictures, is at best more or less a compromise when it comes to lighting a set; time is an important factor and scenes must be telecast in the order of their appearance in the script. In film production, scenes may be photographed many times in order to get the desired result. For television action, lighting, camera movement, lens selection and scenery placement must be carefully planned in advance before the show hits the air.

From this it is easy to understand that planning my shots and photographing them for my 16mm. picture demanded more than the ordinary amount of preparation; that all of the foresight and agility of the TV cameraman would also be required of me in order to capture the scenes I had planned which would reveal the true behind-the-scenes activities of television programming.

That I weathered it all rather successfully is evident, I think, in the now completed picture. For the benefit of other 16mm. movie makers who may have occasion to produce a similar film, the following brief resume of my picture may be of benefit: The picture opens on the screen with the introductory title, "WLWT — Ohio's First Television



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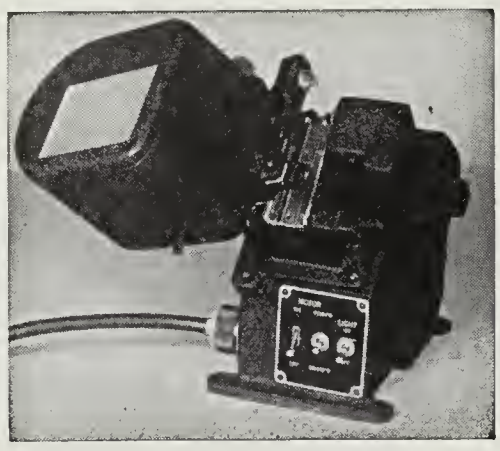
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Station" superimposed over a panorama view of Cincinnati in the background. This is followed by the title, "Television's Trademark" and dissolving into a test pattern. Another title states "Motion pictures provide a large percentage of TV shows," followed by two or three stock shots of motion picture cameramen photographing a girl outside the studio.

From here the picture goes on to show the film being processed in a Houston developing machine, then edited, spliced, inspected, and ultimately projected for ao telecast. The audience is thus shown how motion pictures are made and utilized as TV program material.

Following this, the routine of preparing and photographing a studio live show is shown. Running commentary describes the full sequence of activity and events so the audience is audibly as well as visually informed how the picture signal progress from the live action, to the transmitting equipment and thence to the tube of his home receiver.

The ramifications of televising remote shows is then unfolded in a sequence that shows the station's modern and well equipped mobil unit, and how it is employed in picking up such events as wrestling matches, ball games, and races for our TV programs. Following this is a recap of other types of shows: a dramatic show in rehearsal; an orchestra playing background music, and views of the International Hydroplane races held last summer on the Ohio River—the latter included for the news angle, showing how TV coverage may be accomplished by the use of an on-the-spot motion picture crew for newsreel events. A map then shows, by means of an animated line, the area covered by station WLWT in the states of Ohio, Indiana, and Kentucky.

This 16mm. black and white production has a running time of twenty-one minutes. It carries a "voice over" commentary with starting and closing music recorded on 16-inch broadcast discs. It required roughly six months to produce, from the initial planning to the final editing and sound recording. Approximately 2000 feet of film were exposed. The picture was edited three times, some scenes re-shot, and some material deleted for lack of interest. With the exception of the art titles, made by our Mr. Rudolph Prohoda, the only other assistance received was from Howard Chamberlain, head of WLW's news department, who handled the narration.

It is quite possible that 16mm. movie makers in other cities may wish to try their hand at a similar production for a TV station in their locality. Let me council them that it's no easy task and that a lot of unusual problems invariably will arise. But once the picture is completed, great personal satisfaction will be the reward, for the filmer will have chronicled with his camera the fascinating "new look" of the entertainment world—Television.

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CINEMATOGRAPHY'S CHANGING PACE

(Continued from Page 281)

consulted while the screenplay is being written, it is becoming more evident that that is the time he can offer his most valuable advice regarding the visual presentation of the story. A recent case in point is Screen Plays' production, "Champion," in which cinematographer Frank Planer, A.S.C., was called in for consultation during the planning and writing of the script. Much of the success of this picture is directly attributable to his astute planning and the many shortcuts he made possible by knowing the production thoroughly in advance of the starting date.

Today, the cinematographer is as much a director as he is a photographer, for while he does not stage the action and direct the players, he is concerned with patterns of movement as fluid compositional elements. And along with this ever broadening scope of his work has come a new title to replace that of cinematographer—Director of Photography.

The director of photography must constantly check to make sure that action and movement is consistent from scene to scene, so that the sequence will cut together smoothly. Many stage directors, working on their first few assignments in Hollywood studios, rely heavily on the director of photography for these purely cinematic elements. So closely interrelated are the fields of direction and cinematography in modern film production that several top cinematographers — George Stevens, Ted Tetzlaff, A.S.C., and Rudolph Maté, A.S.C., to name a few— have become top feature film directors with scarcely a break in stride.

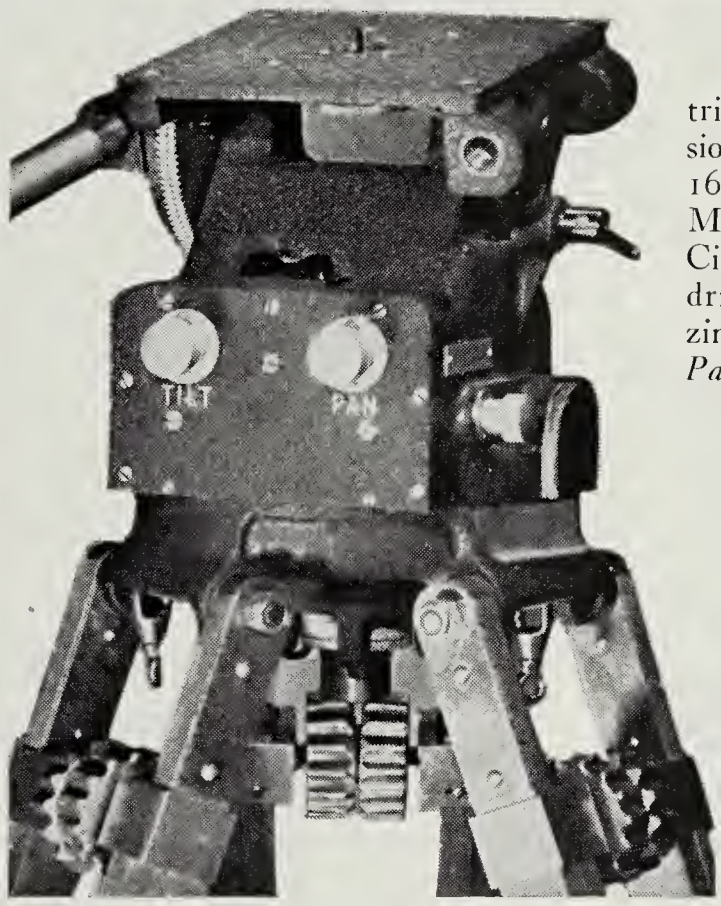
To the American Society of Cinematographers goes much of the credit for the present high recognition accorded the director of photography. Founded 30 years ago as a technical society, the A.S.C. has accomplished a dual purpose: that of gaining proper appreciation of the cinematographer as an artist-technician, and of fostering constant research toward a progressively higher standard of excellence in motion picture photography.

The membership of A.S.C. includes the top directors of photography of Hollywood and many foreign countries. In general they are a quiet distinguished group of men who take their profession seriously and who are continually striving to bring unusual and interesting photographic effects to the screen. A.S.C. has its social side, too, but many of its meetings are given over to reports and demonstrations of new techniques, and refinements of tried and true photographic formulas. Newly installed

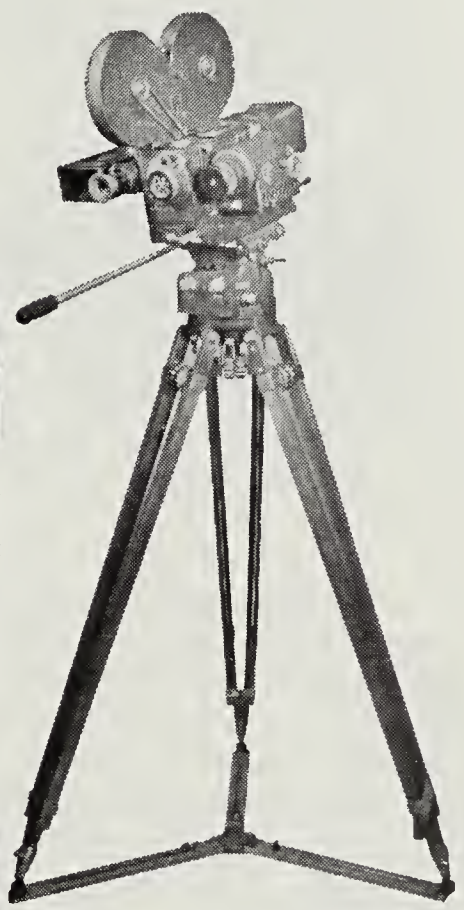
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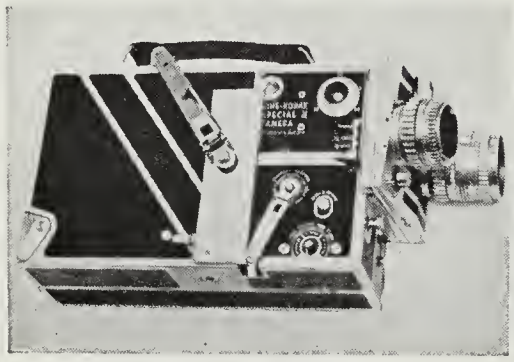
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in the A.S.C. clubhouse is the most modern of 35mm. projection facilities for showing demonstration films before the membership or previewing productions photographed by A.S.C. members.

Keeping pace with the march of technical progress, A.S.C. presently has an active research committee engaged in the study and development of film techniques especially applicable to television. This committee recognizes the fact that while television promises a greatly expanded horizon for the motion picture, it also involves certain limitations and technical problems which must be considered in the production of films specifically slanted for video entertainment. Already many important standard operating procedures have evolved from the research of the committee — developments concerning lenses, lighting, camera movement, choice of angle, laboratory control, etc.

It is natural and entirely logical that Hollywood's top directors of photography should assume the initiative in research concerning films for television, for no other group of men has the wealth of experience and technical background necessary to insure a consistently high standard of quality in this very specialized type of filming. Poor film quality at this point could seriously impede the progress of what promises to be one of the most important entertainment and educational media of all times.

The cinematographer, it may be seen, has come a long way from the days of the hand-cranked camera. He has had much to do with raising the motion picture to a level where it is recognized as one of the most important of creative art forms. He is now about to assume a new responsibility, that of giving wings to celluloid, of putting pictures on the air for the enjoyment of an incalculably wider audience. This he will do with the assurance born of many experienced years, advancing the cause of the motion picture with one eye on the viewfinder and the other on the future.

HOLLYWOOD BULLETIN BOARD

(Continued from Page 276)

Delilah." The players were filmed against a blank process screen, then the background was put in during the laboratory development. Heretofore, details in rear-projection color process shots were imperfect because sufficient light could not be forced through the process screen. With this new method, entire screen is properly lighted, with foreground and background given full light value.

●

REGINALD LYONS, former member of A.S.C., and now a cinematographer for the government, was a visitor at the Society's clubhouse last month.

●

CHARLES HERBERT, A.S.C., is offering his luxurious Montana mountain hideaway for sale. Too far from his photographic business in Tucson, Arizona, he says.

●

GORDON POLLOCK, A.S.C., designer and inventor of many photographic equipment items, has obtained rights to manufacture and distribute a 35mm. slide viewer and a revolutionary new still camera which he designed and subsequently assigned to a local manufacturer during the war.

●

ELMER DYER, A.S.C., has forsaken aerial cinematography for the present in favor of photographing a series of films for the forthcoming Hedda Hopper television program.

SCHIEBE FILTERS, since 1916 the favorites of most Hollywood cameramen, are no longer being manufactured since the death of George Schiebe, several months ago. However Mrs. Edith Schiebe is now offering for sale the entire business left by her late husband, including his secret formulas, raw materials, stock on hand, etc., portending an early return of these famous effect filters on the market.

●

WALTER STRENGE, A.S.C., is taking bows for his fine photography in the independent production, "The Sickle Or The Cross," which he recently photographed for Roland Reed Productions. Picture was screened at the July meeting of the American Society of Cinematographers.

RALPH GRAY

(Continued from Page 290)

lecture platform series in the fall of 1939. "Guatemala, The Glorious," and "Mexican Moods" followed with similar recognition.

In 1941, Gray turned all the films he had made on Mexico over to Nelson Rockefeller, then Coordinator of Inter-American Affairs, for use in preparing film programs designed to strengthen friendship between U. S. and Mexico.

Gray later acquired a Cine Kodak Special and had it just long enough to "get the feel of it," when news broke of the spectacular appearance of the

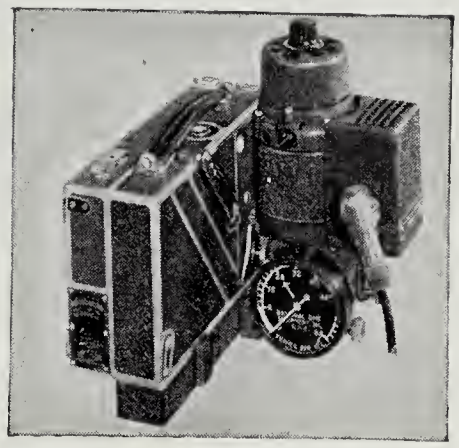
Mexican corn-field volcano that is now world-famous as Paricutin. Gray hustled out to the scene a few days later to make movies of the miracle, recognized that here was probably the first opportunity ever presented a cameraman to photograph a volcano in the making. He laid plans to document Paricutin's growth from birth to adolescence. In all, Gray made 30 trips to the volcano. His early films were so startling in pictorial value and interest, the footage was purchased by M.G.M.'s short subjects department and later released as "Miracle Of The Cornfield," with Gray getting prominent screen credit for the photography.

Gray received the Hiram Percy Maxim award the second time when his film, "Typical Times In The Tropics" was elected one of the Ten Best by the ACL in 1946. Thus he became the first man ever to win the award for the second time.

Recently Gray has been devoting much of his time to screening his films before various amateur movie clubs throughout the United States and lecturing on various phases of color filming. In appreciation of these activities, many clubs have presented Gray with specially engraved plaques and scrolls in recognition of his outstanding contribution to the advancement of the amateur movie hobby. The Dayton (Ohio) Amateur Movie Makers, Denver Cinema League, St. Louis Amateur Picture Club and the Tulsa AMMO Club each have made Gray an honorary life member.

Made a Fellow of the Amateur Cinema League in 1944, elected an Associate of the Photographic Society of America in 1947, Gray was recently made a director of the Amateur Cinema League. In daylight hours, Gray is scouring the hinterlands of America for good human interest movie material. His spacious house trailer, which accompanies him on his motor travels, is unique in that it is completely equipped for his hobby. Much of the roomy trailer cabin is given over to his editing table where each night he puts in an hour or so editing or re-editing his current filming projects. Decorating the walls are the certificates, scrolls and plaques which have been awarded to him for his films or because of his activities in the field of amateur movies. His many trophies also adorn the trailer interior.

One of Gray's associates recently remarked that with most amateur photographers life is about 10 percent photography and 90 percent other things, including the business of earning a living. "With Ralph Gray," he said, "life comes pretty close to being 100 percent photography. No wonder his photographer friends think he has something close to the perfect existence!"





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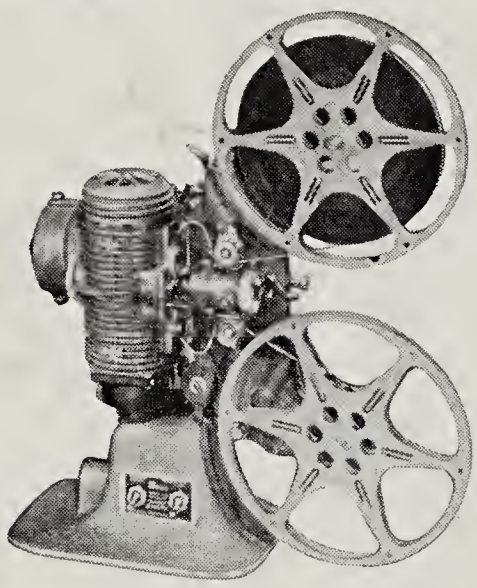
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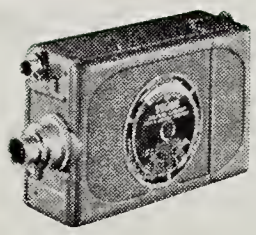
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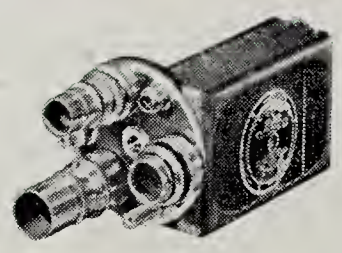
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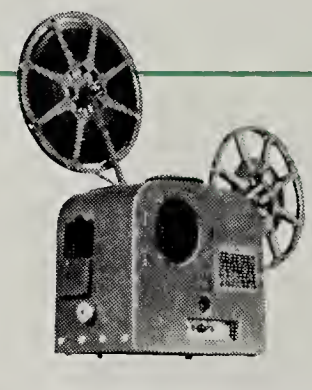
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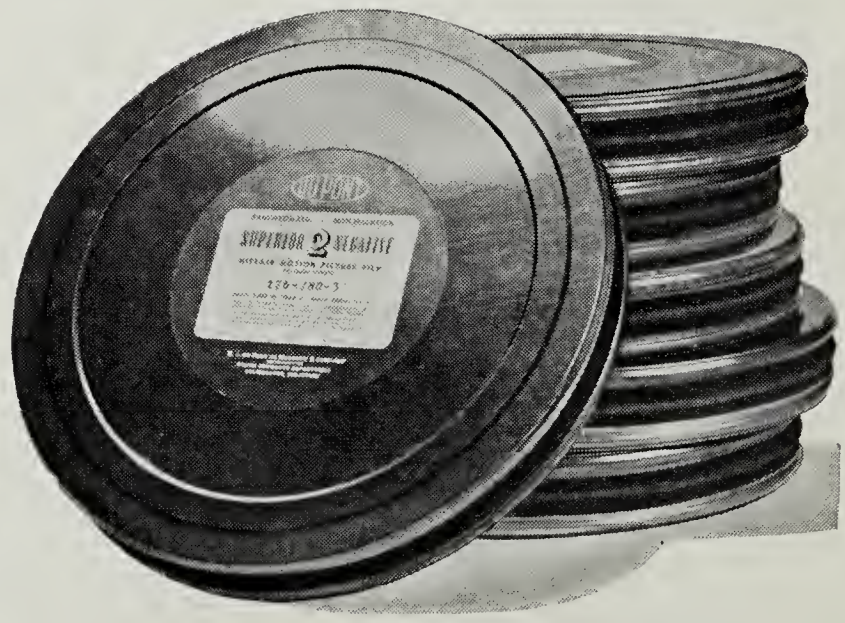
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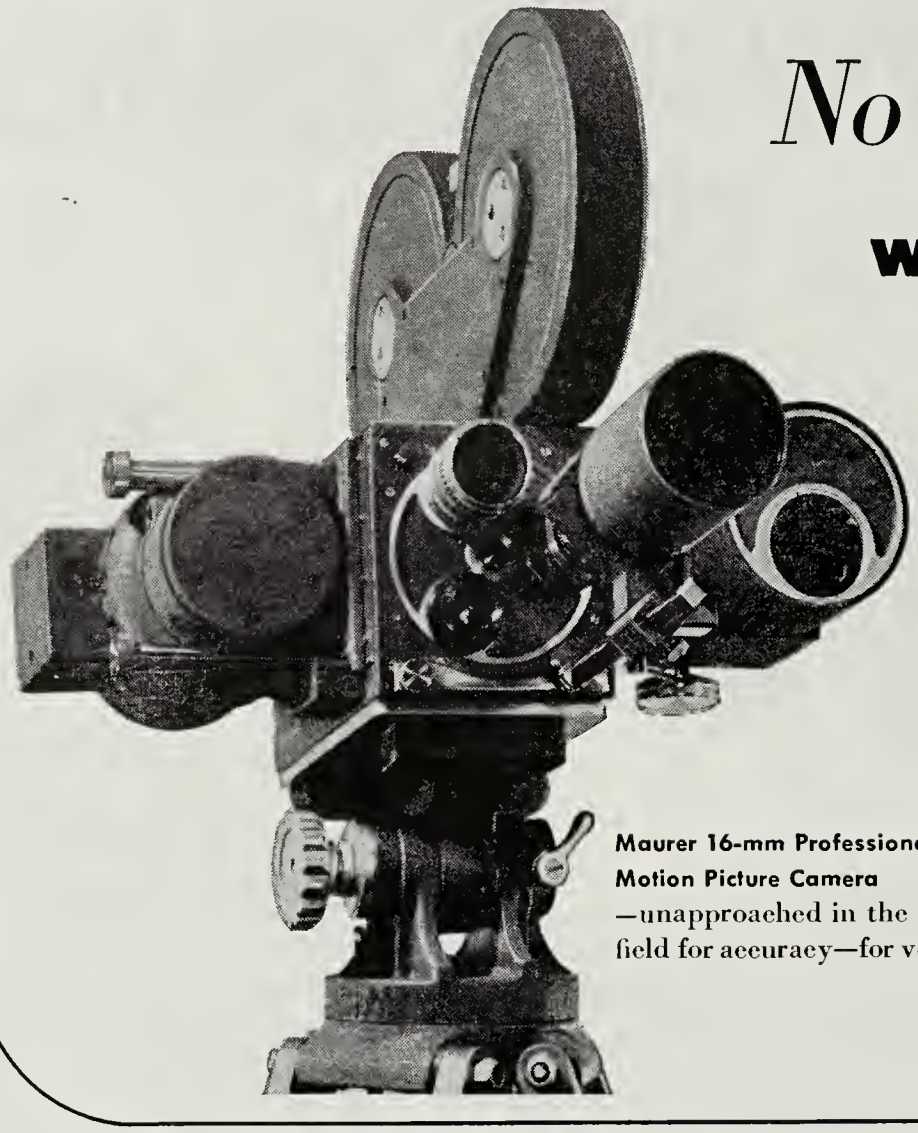
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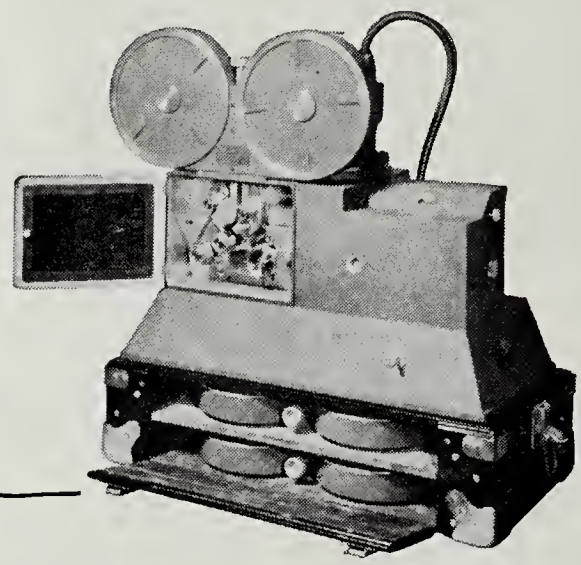
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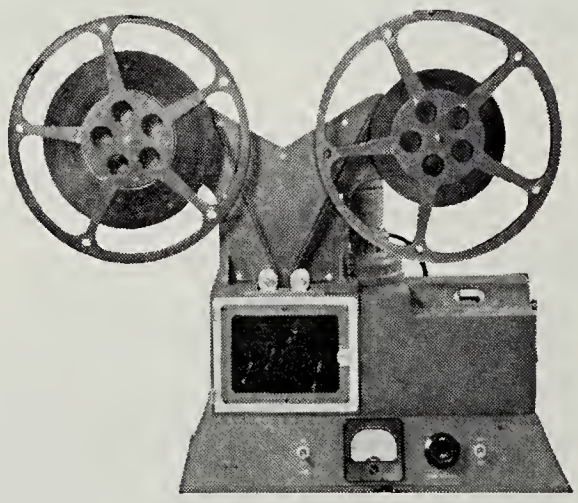
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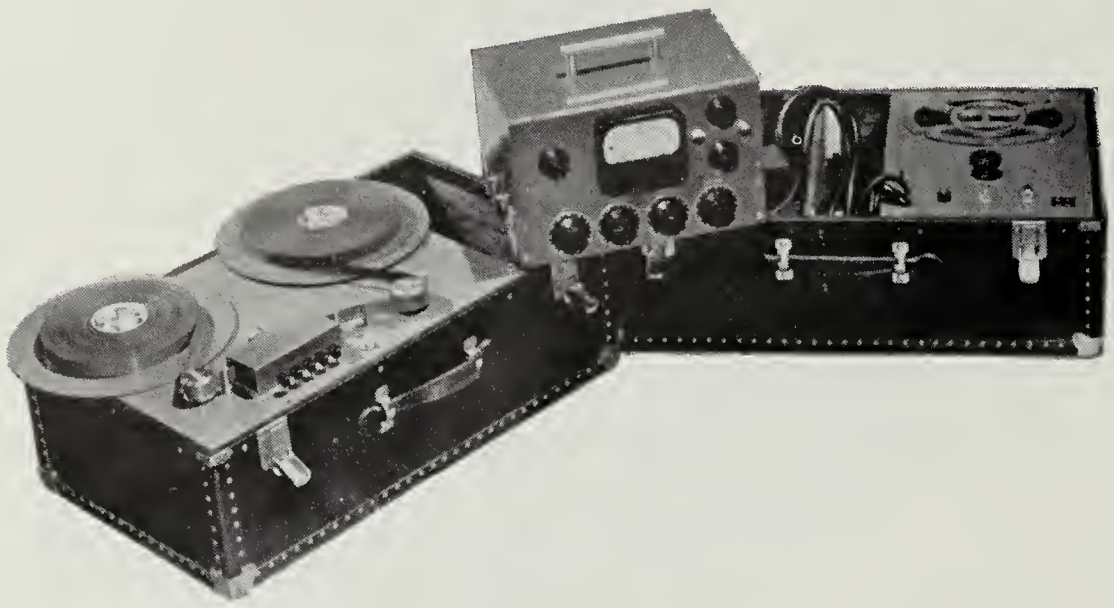
ON THE COVER

JOSEPH RUTTENBERG, A.S.C., explains to Greer Garson the intricacies of the huge Technicolor camera, before which Miss Garson appeared for the first time in M-G-M's "Forsyte Woman," which Ruttenberg photographed. Interested onlookers are Janet Leigh, who's also in the "Forsyte" opus, and white-visored Henry Imus, Technicolor technician.

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1949 by A. S. C. Agency, Inc. AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.

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CURRENT ASSIGNMENTS OF A.S.C. MEMBERS

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

★★★★★★★★★★★★★★★★★

Allied Artists

• PHILLIP TANNURA, "There's A Girl In My Heart," with Gloria Jean, Peggy Ryan, Ray McDonald, and Joel Marston. Arthur Dreifuss, director.

Columbia

• CHARLES LAWTON, "Cargo To Capetown," with Broderick Crawford, John Ireland and Ellen Drew. Earl McEvoy, director.

• JOSEPH WALKER, "Woman Of Distinction," with Ray Milland, Rosalind Russell, Janis Carter and Edumund Gwenn. Eddie Buzzell, director.

• HENRY FREULICH, "Stranglehold," with Willard Parker, Lola Albright, Ray Roberts and Hillary Brooke. Seymour Friedman, director.

• HENRY FREULICH, "Beware Of Blondie," with Penny Singleton, Arthur Lake, Larry Simms. Edward Bernds, director.

• CHARLES LAWTON, "Rogues Of Sherwood Forest," (In Technicolor) with John Derrick, Diana Lynn, George MacReady, Gig Young. Gordon Douglas, director.

• BURNETT GUFFEY, "A Mother For May," with William Holden, Gale Russell and Charles Winninger. Norman Foster, director.

• IRA MORGAN, "Tyrant Of The Sea," (Kay Prodn.) with Rhys Williams, Ron Randell, Val Perkins and Doris Lloyd. Lew Landers, director.

Eagle-Lion

• GILBERT WARRENTON, "The Prizefighter And The Cowboy," (Equity) (In Color) with Jim Bannon, Emmett Lynn, Marin Sais. Lewis D. Collins, director.

Independent

• BENJAMIN KLINE, "Apache Chief," (Lippert Prodn.) with Alan Curtis, Tom Neal and Carol Thurston. Frank McDonald, director.

M.G.M.

• HAROLD LIPSTEIN, "Ambush," with Robert Taylor, John Hodiak, and Don Taylor. Sam Wood, director.

• RAY JUNE, "Nancy Goes To Rio," (Technicolor) with Ann Sothern, Jane Powell, Louis Calhern and Barry Sullivan. Robert Z. Leonard, director.

• HAL ROSSON, "Key To The City," with Clark Gable, Loretta Young, Marilyn Maxwell and Frank Morgan. George Sidney, director.

• CHARLES ROSHER, "East Side, West Side," with Barbara Stanwyck, James Mason, Van Heflin and Reginald Gardiner. Mervyn LeRoy, director.

• ROBERT PLANCK, "Please Believe Me," with Deborah Kerr, Van Johnson, Robert Walker and Peter Lawford. Norman Taurog, director.

• PAUL VOGEL, "The Knife," with Gene Kelly, Teresa Celli and J. Carroll Naish. Richard Thorpe, director.

• JOHN ALTON, "Devil's Doorway," with Robert Taylor, Marshall Thompson, Louis Calhern. Anthony Mann, director.

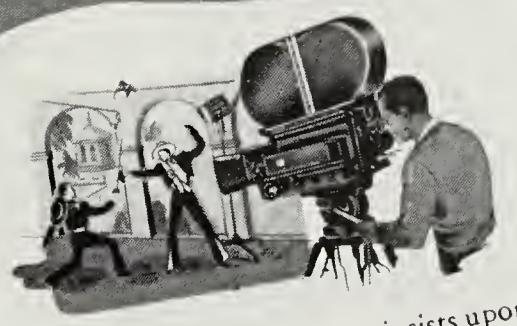
• HARRY STRADLING, "The Yellow Cab Man,"

(Continued on Page 344)

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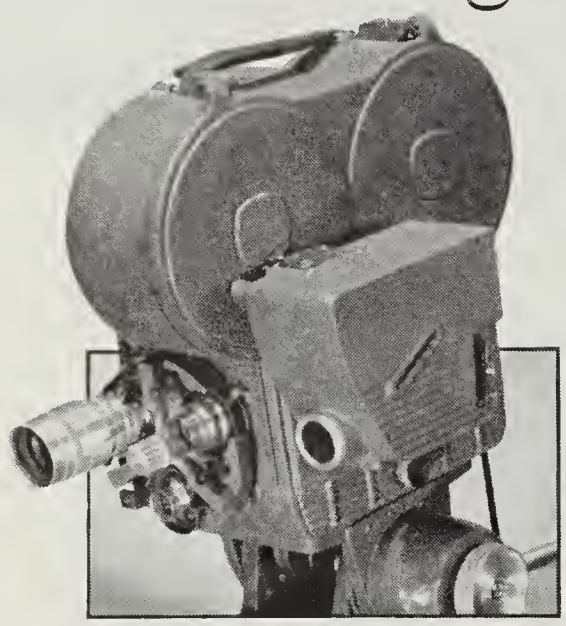
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Hollywood Bulletin Board

SEPTEMBER 17th's the date for the A.S.C.'s annual Ladies' Night Dinner and Dance to be held at the Society's clubhouse, Franklin Avenue and Orange Drive in Hollywood. The weatherman promised mild, Indian Summer weather for that evening which is compatible with A.S.C.'s plans for dining out-of-doors on the clubhouse lawn. Chito Montoya and his Spanish musicians, who furnished music for the Society's big affair two years ago, will again entertain members and their wives during dinner, then furnish rhumbas and tangos afterward for dancing in the clubhouse.

●

CHARLES CLARKE, A.S.C., photographing "Two Corridors East" in Berlin, Germany, for Fox, now makes his reports on daily production to the Twentieth Century-Fox lot in Westwood via trans-Atlantic telephone. There Sol Halprin, A.S.C., studio's camera department head, records the two-way conversation on tape for playback to studio's production heads.

●

PICTORIAL LAYOUT of Academy Award Winners of past twenty years appears in the September issue of Coronet magazine. Signed comments by honored stars and directors accompany each photograph selected from a key scene that recalls the "Oscar" honored film in this layout.

●

ROBERT SURTEES' camera crew, while on location in Africa for M-G-M's "King Solomon's Mines," will have all the advantages of the home-lot camera department and lab in the special mobile camera room which that studio had Chrysler Motors build especially for this location project. The mobile unit, a special 4-wheel-drive Chrysler truck, comprises an 8 by 5 by 10 foot refrigerator room for film storage. Here exposed and unexposed film will be kept at an even temperature of 40 degrees. The other section of the truck, 8 by 10 by 15 feet in extent, provides loading, storage and repairing facilities for camera equipment. "King Solomon's Mines" will be photographed by Surtees in Monopack.

●

KARL STRUSS, A.S.C., donned grease paint recently to play the lead—that of a director of photography—at Paramount Studios in the industry short subject produced by the Academy, which will tell the public the story of the director of photography's part in production of a motion picture.

●

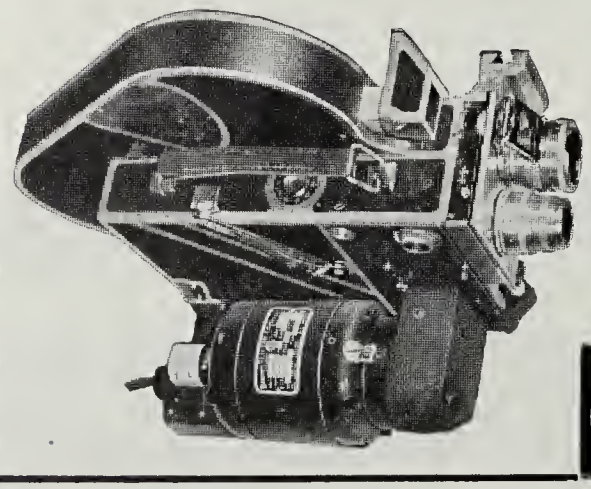
A.S.C. MEMBERS Paul Eagler and Bob Hansard have merged talents and equipment and now offer the independent producer the finest facilities for background projection and special effects. Recently they have serviced such studios as Motion Picture Center, Nassour and Hal Roach. They are equipped to work in both color and black and white photography, using Mitchell and Hansard Special projectors and screens up to 24 feet in width. Both men are credited with the fine background projections in "Joan of Arc," photographed in Technicolor and

(Continued on Page 344)

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for the

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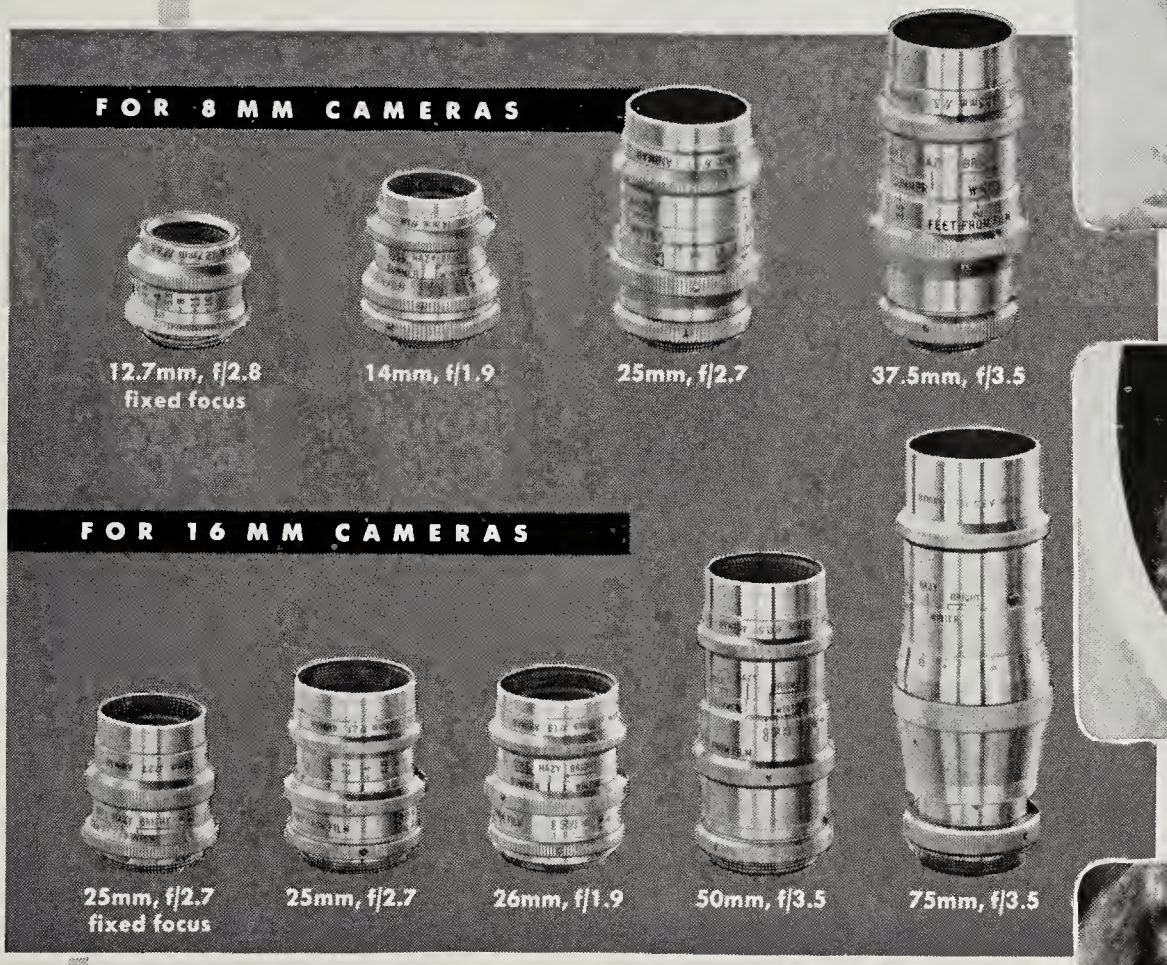
Drive coupling attaches to single-frame shaft of camera and is mated to spring-steel drive arm of motor gear box. This assures that camera mechanism cannot be damaged if a film jam occurs as the spring steel arm drive will shear. This is easily replaced.

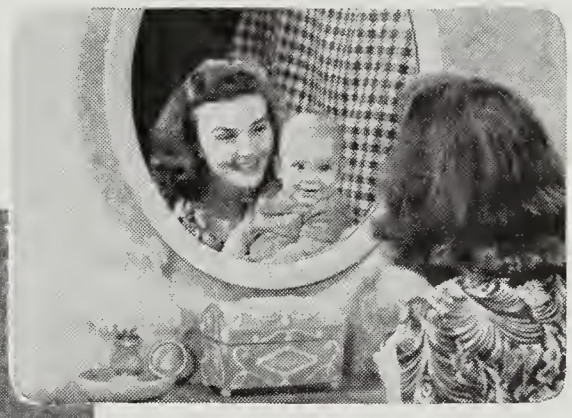
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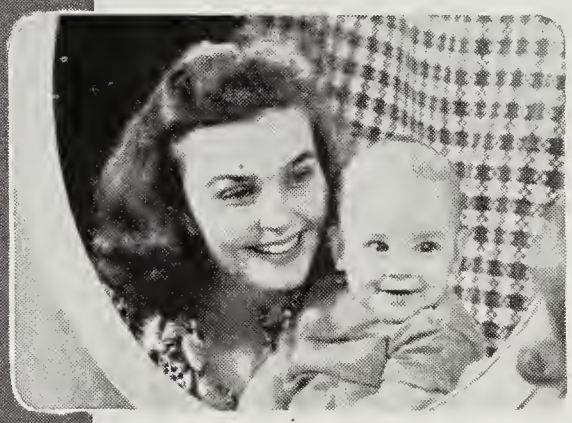
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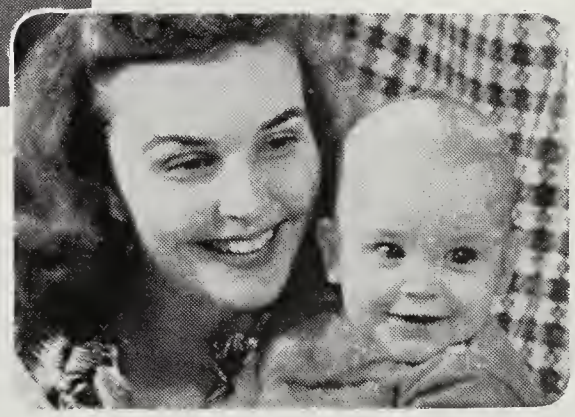




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For middle shots



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CINEMATIC WIZARDRY of M-G-M's Irving Ries plus imagination and originality of Fred Astair made successful the much-talked-of "dancing shoes routine which highlights "Barkleys Of Broadway." Here Astair, in role of a cobbler, watches nimble feet of Les Clark display a few fancy steps which open the sequence.

THE DANCING SHOES

How the magic dancing shoes were made to tap out a dance routine with Fred Astair in "Barkleys Of Broadway"

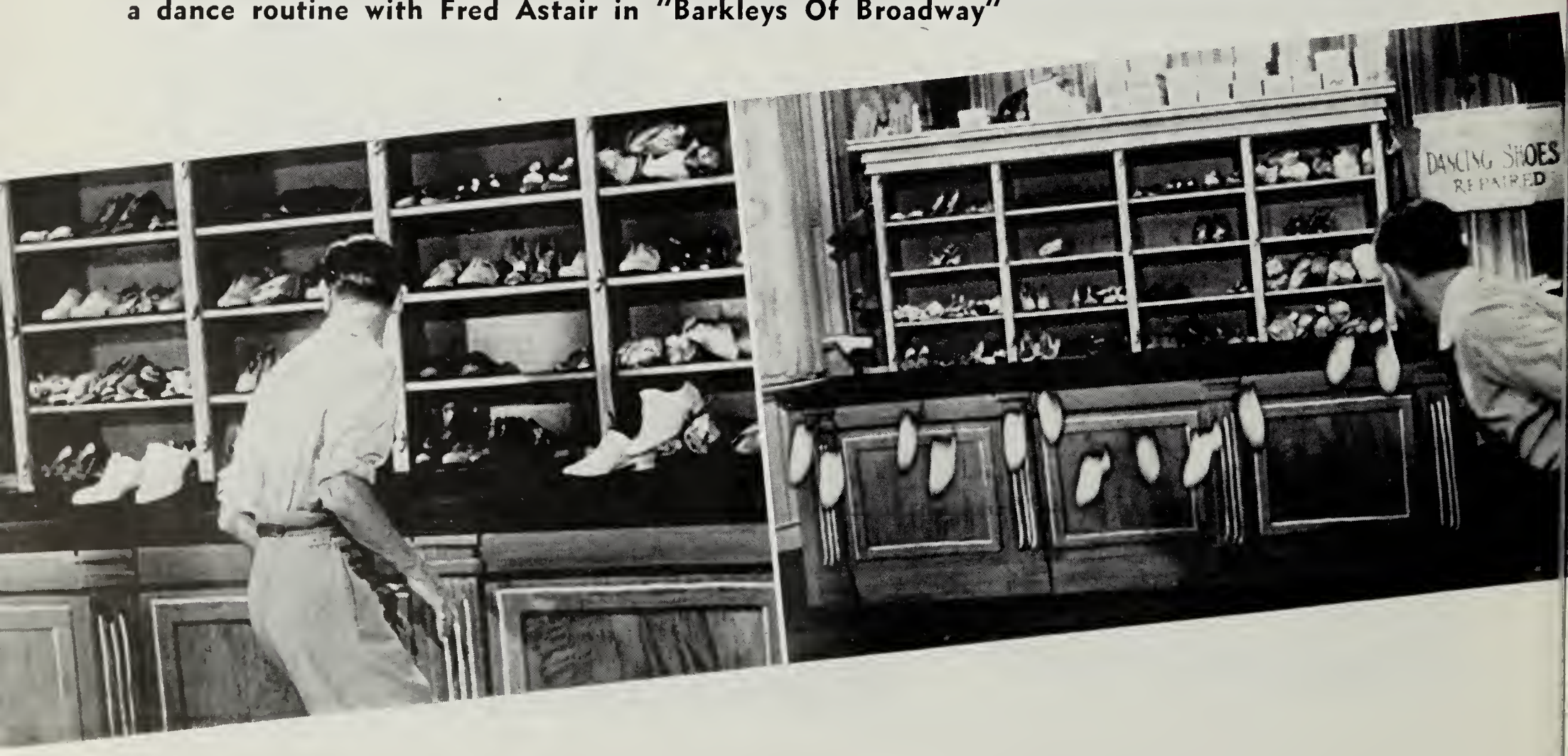
NOT SINCE "Topper" intrigued audiences a decade ago with startling photographic magic has a cinematic effect so fascinated movie-goers as the dancing shoes sequence, which highlights M-G-M's "Barkleys Of Broadway," starring Fred Astair and Ginger Rogers.

In this sequence Astair portrays a cobbler whose shop is frequented by theatrical folk. Dancer Les Clark brings him a pair of dancing shoes to have the taps adjusted and before leaving, executes some nifty steps before the awe-struck Astair. When the shoes, with nobody in them, suddenly do a few tap steps, Astair looks at them in amazement, then decides to try them on. The shoes all but "carry him away." As they go through lightning steps, Astair's body tries desperately to keep up with them.

Suddenly, other dancing shoes magically appear on the counter, tapping to the music. Then six pairs tumble down from the shelves back of the counter and execute a routine around the startled Astair who, still wearing the dancing shoes, joins in, culminating one of the most effective dance numbers ever staged in a Fred Astair picture.

Astair dreamed up the idea for the sequence, planned it out on paper, then took it to Irving Ries, A.S.C., Metro-Goldwyn-Mayer's wizard of optical printing. From here on it was Ries' baby, and what he did with it proves conclusively that "the old master's" well of cinematic wizardry is far from dry despite his 25 years of concoting optical legerdemain at M-G-M.

Together with Ries, Astair worked out the dance routines, then tests were shot in black and white. When the rou-



tine was perfected, and the action was carefully plotted to jibe with the requirements of optical printing, they went on the set and photographed the routines in Technicolor, with Harry Stradling, A.S.C., behind the camera. The action was carefully cued to a playback of music and taps.

When a satisfactory take of the basic scene was completed, the set was cleared of players then completely draped in black velvet. The "invisible" tap dancers —there were six in all—were then photographed as they went through their dance routine over and in front of the black backdrop. The dancers were dressed in black tights and shirts, their hands covered with black gloves and their faces similarly obscured with black masking. Only their white shoes were visible. Guide marks placed on the velvet covering the floor served as a guide for the dancers, so their movements would be kept in proper relation with that of Fred Astair when the two takes were superimposed. A pair of ballet slippers also enter the scene momentarily on invisible dancing feet, and this required still a third take, which was likewise superimposed—a matter that required careful and exact timing.

As if the problem of superimposing six pairs of dancing shoes—actually dancing, that is—were not enough to toss in the lap of Ries for one production, Astair also thought it would be a good idea to have the shoes jump from the shelves back of the counter, onto the shop floor, at the beginning of the dance. Shoes,



IRVING RIES, A.S.C., head of M-G-M's optical printing department, noted for pulling cinematic rabbits out of hats for producers there, planned and executed the unique optical effects which made the dancing shoes sequence so successful.

especially with feet in them, just don't fit in narrow shelves and besides the black-masked dancers would have to stand upright in order to execute the jump. Ries solved this problem by having the top row of shelves cut off for this take. This enabled the dancers to stand on the next row of shelves, begin their routine with a few tap steps, jump to the floor, and continue tapping. The top section of shelving was later replaced for balance of the sequence.

The big problem encountered by Ries was that of keeping each dancing shoe visible in its entirety at all times, except when it passed momentarily behind Fred Astair dancing in middle of the floor. For, normally, when a dancer's leg crossed between camera and the shoe on the opposite foot, that shoe would be obscured from view of the camera. In order to make the illusion of the shoes dancing alone seem real, it became necessary to "fill out" or complete the image of those shoes thus obscured, in the initial negative.

Reis solved the problem by employing simple animated cartoon technique. He first projected frame by frame on animation celluloids or "cells" that portion of the negative showing the obscured shoes. An artist outlined the missing portions of the shoes on the cell, later inked them in, and Ries photographed it. The result was superimposed in the printing.

As the picture was being photographed in Technicolor, this meant that the cells had to be photographed three times—once for each of the three color negatives that comprise the Technicolor system. Subsequently, these negatives were combined with the first to produce the complete image. "From there on," said Ries,

(Continued on Page 335)



DANCING SHOES routine is partially depicted in this four-frame clip from "Barkleys Of Broadway." When a pair of shoes left for repair do a few dance steps, the amazed Astair tries them on and is set to dancing, too. Other shoes tumble from his shelves and dance a pattern of steps around the gyrating Astair. Shoes, which were superimposed, were first photographed on dancers masked in black, against black background, then printed in by travelling matte process.



FILM CLIPS show comparison of scenes photographed with and without a Garutzo lens. First clip is of an interior shot with a 35mm. lens at f/2.8. Foreground is 3′ 2″ and background 7′ from camera. Second clip shows same scene shot with Garutzo lens at same stop, with greatly improved depth of focus. Third clip was photographed with a 2 inch lens at f/11, follow focus. The fourth clip is of same scene made with a Garutzo lens fixed at f/11. Greater depth of focus obtained with this lens is evident in the sharpness of image of third figure in deep background.

The Garutzo Lens In Motion Picture Photography

Patented method of lens modification increases focal depth; enhances definition and contrast.

By R. M. NEWBOLD

WHEN Stephen E. Garutzo added an annular lens element—a glass disc with a hole in the middle—to the multi-element system of a photographic lens assembly, he confirmed what he had long suspected: that it was thus possible to materially increase depth of focus and greatly enhance definition and contrast. This was the beginning of the Garutzo principle of modifying or balancing photographic lenses. With some lenses, one annular element added is sufficient to complete the Garutzo balancing principle; with others, two or more annular elements may be required.

Previously, optical experimenters had employed two or more coaxial lens systems, having slightly different focal lengths, to attempt to bring different object planes into simultaneous focus in a common image plane. Thus, for example, one lens system would be employed to sharply focus foreground objects and another coaxial system employed to sharply focus the background and superimpose such images on the foreground image.

The difficulty of this arrangement was, however, that secondary images, e.g., that of the background object produced by the foreground objective, caused a general fogging or blurring of the composite image, which detriment more than offset the benefit of the increase in focal depth.

In general, we are told, the Garutzo modification of a photographic lens, which is a patented method, accomplishes two major improvements: (1) the focal depth of the modified objective is increased and (2) the definition and contrast of the image is greatly enhanced by a substantial reduction in the vestigial spherical aberration of the conventional lens. Previous attempts to accomplish the increase in depth of focus, first above mentioned, have had no success because the modifying elements have introduced other undesirable aberrations.

The diaphragm, instead of being used to create an illusion of increased focal depth by means of small apertures, as in conventional lenses, is employed in the Garutzo modification to increase the plasticity of the photograph, thereby intensifying the three-dimensional effect.

Some of the more readily demonstrable superiorities claimed for Garutzo balanced lenses are:

1. The great latitude that comes with the deep critical field produces an unbelievable ease of operation. A minimum number of focusing adjustments are required; the risk of missed focus is greatly reduced; the importance of hitting exact marks by the actor is minimized; tedious rehearsals to coordinate action and camera movement become unnecessary—all of which relieve both actor and crew from inhibitions and tensions with consequent savings of film, time and money.

2. Since the deep field of critical focus obtains with full apertures, neither small apertures nor unbalanced lighting is necessary. This introduces a new ease of set-lighting. The Garutzo balanced lenses, transmitting a uniform density over the entire field, require only uniform lighting over the entire set. The saving in time by this method is alone considerable, but additionally, further savings are guaranteed by the lower light levels required for the larger apertures at which these lenses carry their full depth of focus.

3. The absence of distortions at wide apertures will, particularly with the wide angle lenses, provide endless opportunities for their use in ways that will likewise effect further economies. Matte

(Continued on Page 342)

Eclair Camerette Makes U.S. Debut

French import boasts many unique features including direct through-the-lens viewfinder.

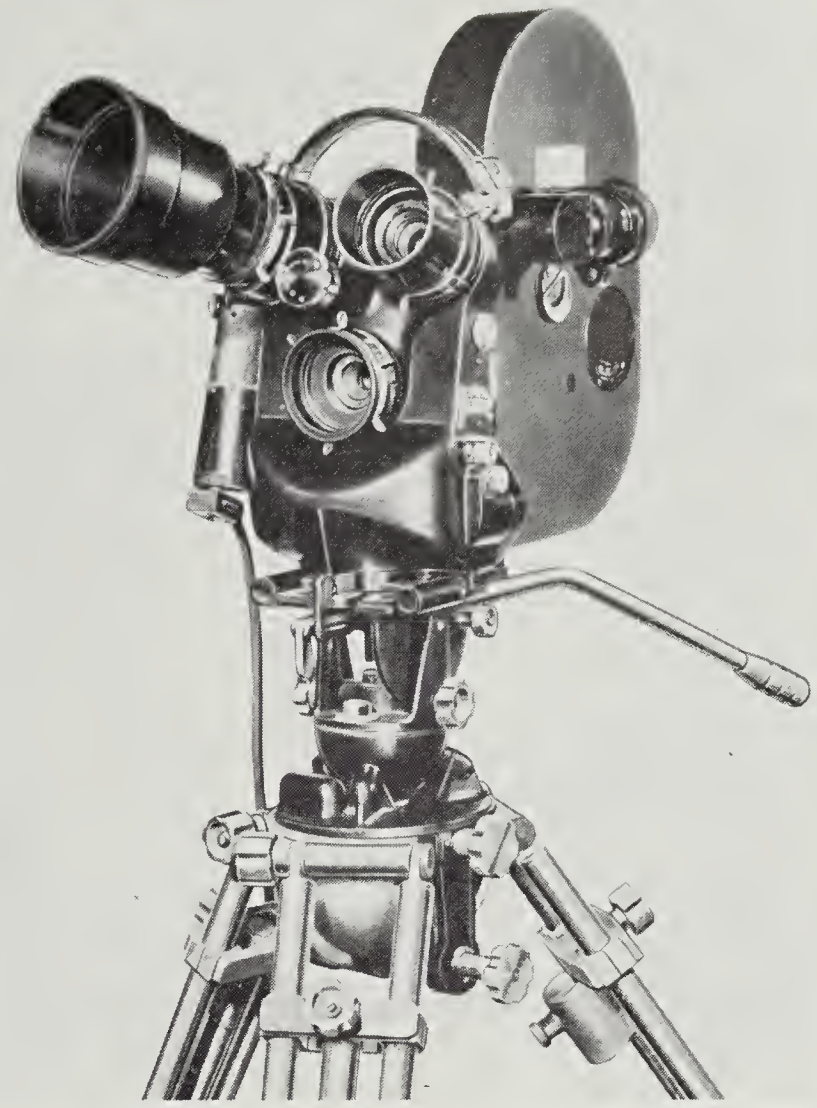
By BENJAMIN BERG

A COMPLETELY new portable motorized professional 35mm. camera has recently been introduced in America by the Camera Eclair Company, of Paris, France. The camera, known as the Cameflex in France, and trademarked the Camerette in the United States, is the product of five years of research by Messrs. Coutant and Mathot, following the suggestions of the best French cameramen of the Commission Superieure Technique.

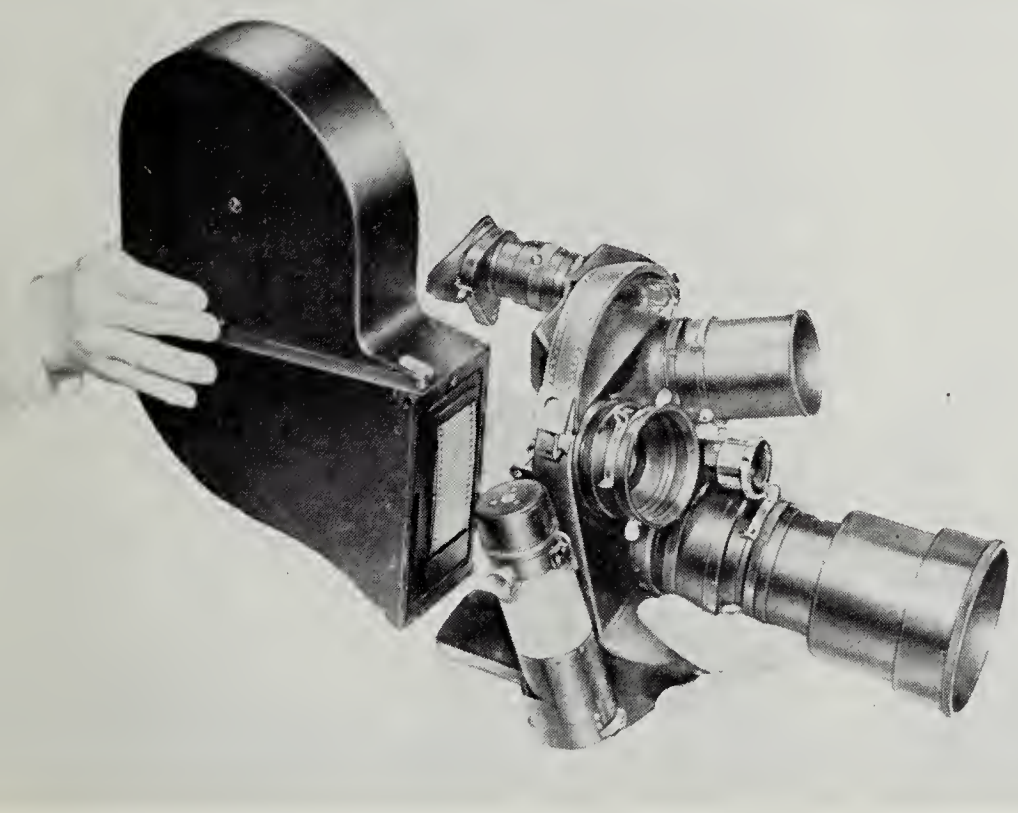
It is designed to combine the advantages of the heavier type production cameras with the portability of news cameras, and fills a long felt need for a precision portable camera. Of prime interest are its light weight, unique ratchet movement, 200° adjustable reflex shutter, and instantly interchangeable film gate magazines. It can be hand held, set upon its special telescopic tripod, or fastened to any other solid object by means of its special clamp. The Camerette equipped with 400 ft. magazine weighs only 14 pounds. The whole design is such that the camera rests against the operator firmly when hand held, assuring extreme steadiness. The ratchet movement is both rugged and dependable. The reflex viewing principle allows accurate framing and focusing during shooting.

The camera, built in two parts, is made of pressure die castings of aluminum alloys. The main unit comprises the turret, the operating mechanism (claws, shutter, reflex), the front section of the gate, the view finder, and the tachometer. The second part consists of the automatic film gate magazines,

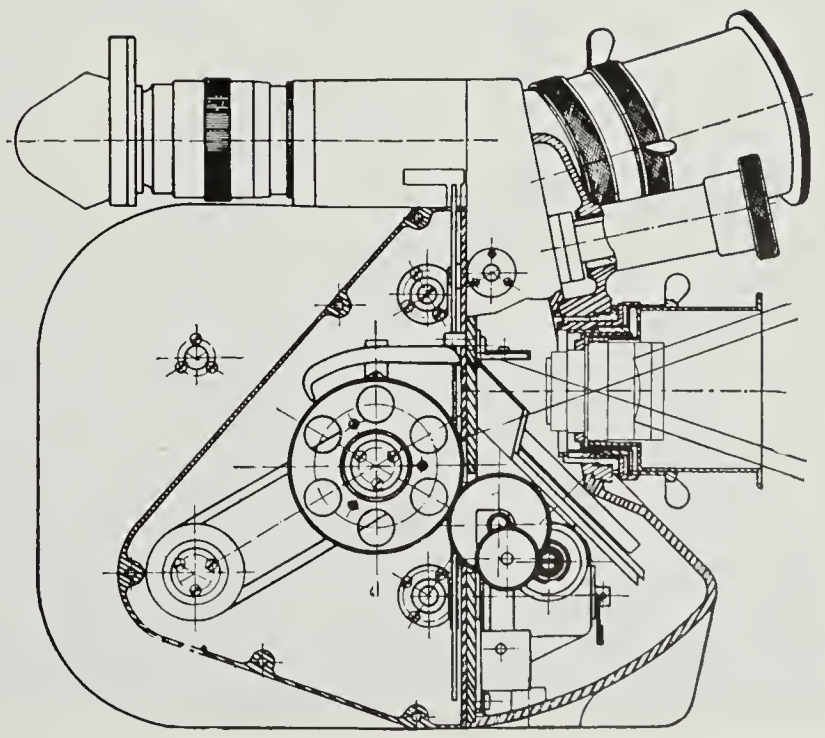
(Continued on Page 332)



THE COMPLETE Camerette outfit — camera, tripod and tripod head, with 6-8 volt motor drive. Camera is adjustable for a wide range of speeds for which a handy built-in tachometer insures accuracy.



CAMERETTE is built in two sections. Main unit (right) comprises the three-lens turret, operating mechanism, front section of gate, viewfinder, and tachometer. Second section consists of automatic film gate magazine containing sprocket, pressure pads and footage indicator.



SCHEMATIC diagram of the Camerette showing unique 200° adjustable reflex shutter which enables operator to view the scene as it is being photographed. Revolving mirror disc, which is part of the shutter, reflects image upward toward prism of adjustable viewfinder.

TYRO IN TECHNICOLOR . . .

The artfully photographed 'Forsyte Woman' demonstrates how successful has been the transition from black and white to Technicolor for Joseph Ruttenberg, A.S.C.

GREER GARSON'S leading men come and go with each new picture, but the most important man in her cinematic life still is Joe Ruttenberg, her cameraman. Joe has been Miss Garson's favorite cameraman ever since his astute photography and Miss Garson's inspired performance made *Mrs. Minniver* the Academy Award winner for 1942, and also netted Oscars for their individual contributions.

Joe Ruttenberg has photographed nine starring vehicles in a row at M-G-M for Miss Garson: *Mrs. Minniver, Random Harvest, Madame Curie, Mrs. Parkington, Valley Of Decision, Adventure, As You Desire Me, Julia Misbehaves,* and her most recent, *Forsyte Saga,* since retitled *Forsyte Woman.* The first eight were black and white pictures. *Forsyte Woman* is in Technicolor and marks a milestone in the cinematographic career of Joe Ruttenberg in that it's his initial Technicolor picture.

There still are a lot of top directors of photography in Hollywood studios who have never photographed a picture in Technicolor, and until a few months ago, Joe Ruttenberg was one of them. So we naturally were interested in the reaction of this two-time Academy Award winner upon receiving the *Forsyte* assignment, and particularly in learning if he encountered problems in adapting his black and white lensing technique to the untried Technicolor medium.

"There is nothing mysterious about photographing a picture in Technicolor," he said. "There is 'color' in black and white pictures, too—varying degrees of light and shadow, tones of black, grey and white. From a compositional standpoint, real colors replace these tones in a Technicolor picture. Instead of painting with light and shadow, as we do in black and white, our colors are ready made—by nature, in the case of most exteriors, and by the art director and his technicians in the interiors. So it becomes a matter of knowing how to light each set, or more correctly—how to balance the light to bring this color to the screen in the most natural and effective manner." Ruttenberg, of course, gives full credit for the invaluable guidance and council rendered by the Technicolor consultants who worked closely with him on the picture.

As to his immediate reaction, upon receiving the Technicolor picture assignment, Ruttenberg indicated he did what any intelligent cinematographer would do—boned up on the subject before start-



MIDGET VIEWFINDER is Ruttenberg's invaluable gadget for lining up the camera. It enables him to spot camera setups with a minimum of time; is much handier to use than the larger Mitchell-type finders, he says. Approving a choice angle for "Forsyte Woman" is director Bennett.



ANOTHER GADGET which Ruttenberg uses to advantage is the viewing glass for checking lighting and contrasts. Here he keeps watchful eye on set as gaffers arrange the lighting for a scene in the Metro-Goldwyn-Mayer production, "Forsyte Woman."

By RALPH LAWTON

ing to shoot. Of course, he points out, one could hardly work on the M-G-M lot, what with so many Technicolor pictures being shot there all the time, without picking up plenty knowledge about color photography. There's unusual camaraderie among the cinematographers there, too, and it's not considered naive or embarrassing for any cameraman to go to a contemporary for a bit of advice. The best of them consult with one another on set lighting and photographic problems every day. So if Joe Ruttenberg needed any preliminary briefing before starting his camera rolling on *Forsyte Woman,* the knowledge was quick in coming and dependable.

Asked if he shot a few tests in Technicolor in advance as a check, he said the only pre-production tests he made

(Continued on Page 340)



RIDING CAMERA BOOM with his operator, Herb Fischer, is Joe Ruttenberg, A.S.C., as he lines up the longest take in "Forsyte Woman" under watchful eye of director Compton Bennett. In foreground, Technicolor technician Henry Imus keeps camera in focus by remote control.



TRICKIEST SET in "Forsyte Woman" was this 'exterior' built on M-G-M's largest sound stage. Careful attention to lighting the foreground and the hand painted backdrop enabled Ruttenberg to obtain complete illusion of reality.



FOG SCENES, at which Joseph Ruttenberg is an old hand, saw him dust off some of his old lighting tricks for "Forsyte Woman," his first Technicolor picture. Cameramen still talk about his dramatic photography of fog scenes in "Dr. Jekyll and Mr. Hyde," which he photographed for M-G-M in 1941.



SOURCE light for this scene was shaded drop light above the table. Robert Surtees, A.S.C., used a single photo-flood bulb in the fixture as sole illumination for group.



SOURCE light here is quite obviously the bright sun streaming through door of granary. Effective lighting by Ted McCord, A.S.C., made the illusion very real in "Johnny Belinda."

Source Lighting

Establishing basic source light is first step in lighting the motion picture set.

By CHARLES LORING

IF IT WERE possible to select one basic technical rule as a formula for success in motion picture lighting, that rule would be: "Follow the natural light source." Such an arbitrary rule is not, of course, a cure-all for every situation —nor can it always be interpreted literally. But the fact remains that every lighting pattern in real life has its basic natural source, and that if the cameraman re-creates a lighting situation for the screen in similar terms, he can hardly go wrong.

A surprising number of cameramen and directors of photography have never found a functional method of plotting the lighting of a sequence. This applies not only to amateurs, but to a great many professionals and semi-professionals who earn their living by filming commercial, industrial, or educational motion pictures. To these technicians each new lighting setup is a challenge to be met only by dint of much blood, sweat, and tears—to say nothing of costly trial and error. Actually, the whole problem of lighting becomes greatly simplified when a systematic approach is used.

The cameraman's principal key to the lighting of each sequence is the script itself. Even though the writer may not have indicated camera and lighting directions in his treatment, certain moods are suggested by the action and dialogue as written, and it is up to the cameraman to study these elements and translate them into terms of light and shadow. Further clarification of the mood and lighting key of specific sequences will arise out of conferences between the cameraman and the director. Quite often, the director's interpretation of a sequence may vary greatly from the mood indicated in the script, but since he is the

(Continued on Page 336)



NOTE how illumination on players in this scene appears to come naturally from the table lamp, result of Ted McCord's deft lighting skill and careful attention to detail.

When The Director
Calls—"Camera!"—

The Cinematographer
Demands—

And The Star
Requests—

The Preference Of
The "Lab" Operator—

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NEGATIVES

J. E. BRULATOUR, INC.
Distributors

The American Cinematographer Award

New Incentive For Amateur Movie Makers

By ARTHUR E. GAVIN

IN THE more than two decades that have elapsed since introduction of the first 16mm. camera gave impetus to the hobby of amateur movie making, there have developed a great number of proficient ciné photographers whose exceptionally fine work rarely receives recognition beyond the filmer's own circle of friends.

Until now, these amateurs have had no means of gaining recognition for their work on the advanced or semi-professional level which the quality of their photography entitles them. In the world of amateur movie making, there are two identifiable levels of workers—(1) the snapshooter, usually the novice who has yet to discover the opportunities that his cine camera can open for his creative abilities, and (2) the advanced or serious amateur movie maker, once a dub or snapshooter, but who has applied sound photographic principles and creative ability to his work, and in recent years has come up with 8mm. or 16mm. films that win prizes and are talked about.

That these serious workers should be encouraged to go on to bigger things cannot be denied, and while none of them labor under the delusion that Hollywood's studios hold promising jobs for them, if only their work could be shown the right people there, there are comparable satisfactions to be gained by these serious filmers providing there is ample incentive to pursue their chosen photographic hobby.

In announcing its first annual National Amateur Motion Picture Competition for members of amateur cine clubs, the American Cinematographer is taking the first important step toward creating world-wide recognition for the cinematographic abilities of America's outstanding amateur movie makers.

Because most of these filmers are members of local amateur movie clubs, and if not they should be, American Cinematographers' annual competition is to be conducted for and through the several hundred amateur movie clubs throughout the U.S. The officers of these clubs are being invited to choose, from among the best films made by their members since January 1, 1948, the best 8mm. and the best 16mm. pictures and enter them in A.C.'s competition under the auspices of their club.

The competition, which is to be conducted annually, is for the American Cinematographer Award, which will go to the maker of the best 8mm. or 16mm. film entered in the competition. In addition, six achievement awards will be given the six next best films. Companion awards will also be made those clubs whose members win one or more awards in the competition.

Movie amateurs who are presently not a member of any cine club may also participate in the competition. These filmers should contact the secretary of their local cine club and indicate their desire to submit a film for consideration as an entry. The club will evaluate the film, along with others submitted by non-members and submit the best 8mm. and the best 16mm. non-member film to American Cinematographer's judging committee.

Each club will be limited to entering one 8mm. and one 16mm. member-made

(Continued on Page 343)

AMATEUR MOVIE CLUB MEMBERS! AMATEUR MOVIE CLUB SECRETARIES!

CLIP THIS coupon and give to the directors of your club with request that they fill it out and mail at once for entry blanks for American Cinematographer's 1950 Amateur Motion Picture Competition, announced elsewhere in this issue.

EDITOR,
American Cinematographer,
1782 NO. ORANGE DRIVE,
HOLLYWOOD 28, CALIF.

Gentlemen: Please send us our allotment of entry blanks and complete details for American Cinematographer's 1950 Amateur Motion Picture Competition. Same should be mailed to:

M _____

Title _____

Name of Club _____

Mailing Address _____

City _____ Zone ____ State _____

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FOR AMATEUR MOVIE CLUB MEMBERS

for the

AMERICAN CINEMATOGRAPHER AWARD

AND SIX ACHIEVEMENT AWARDS FOR CINE PHOTOGRAPHY

Closing Date for Entries . . . MARCH 1, 1950

Winners will be Announced MARCH 15, 1950

Competition open to members of amateur movie clubs within the United States. Non-movie-club-members may also compete by submitting films to their local movie club for entry. (See rules.)

Judges will be leading directors of photography of Hollywood's motion picture studios. Names will be announced next month.

RULES

- Competition open to members of amateur movie clubs within the U.S. Clubs will evaluate and enter the best 8mm. and best 16mm. film completed by a member since January 1, 1948. Individuals (non-club-members) may also compete by submitting films to their local amateur movie club for entry at discretion of the club. (Refer to your local camera store for name and address of local club, or write the Editor.)

- Amateur movie clubs may enter films not to exceed 4, as follows:

  Best 8 mm. member-made film.
  Best 16mm. member-made film.
  Best 8mm. non-member film.
  Best 16mm. non-member film.

- Film length limits: 16mm.—800 feet. 8mm.—400 feet.

- Entry Fee: $1.00 for each subject submitted.

- Each entry must be wholly amateur produced, except for any titles and film laboratory work. Any sound accompaniment must be recorded exclusively by the entrant or club submitting the film.

- Each film reel as well as its container must be plainly and securely labeled with owner's name and address **plus** name and address of club entering the film.

- All films must be shipped on reels and in cans to contest headquarters fully prepaid. Entry blank and fee should be mailed in advance of film. Films will be returned directly to owner via Express collect, fully insured. **Be sure** to indicate value on your entry blank for which films are to be insured.

- Please indicate make and model of camera and the lenses used in making your picture; also brand of film used. This information will have no bearing on evaluation of films, but is desired by judges for reference.

- Do not submit any films before **January 1, 1950.** Send only your entry blank which may be obtained by writing The Editor, American Cinematographer, 1782 No. Orange Drive, Hollywood, Calif.

Club Secretaries: *Write today for your club's allotment (4) of entry blanks, indicating your club's desire to participate.*



THE EASIEST WAY for the amateur filmer to arrive at a standard assuring brilliant, consistently exposed color movies is to shoot under a light condition that is least variable.

Light On The Subject — Outdoors

By CANFIELD COOK

Reprinted from "Color Movie Making For Everybody," by Canfield Cook . . . published by Whittlesey House.

MOST COLOR filming is done outdoors beneath the sky. There are two good reasons for this. First of all, we think of the great outdoors as offering greater color possibilities. Secondly, outdoor filming is less bothersome from a light-supply point of view. There are no lamps, wires, and stands to worry about. There is just a good old sun that will shine down directly on our subjects and provide light aplenty, sometimes in a soft and diffused manner when filtered by the clouds or haze.

There is one great disadvantage about the sun. We can't reach up and shift it to the desired position or turn its brilliance up and down. We must make the very most of what it offers at the moment filming is to be done—unless there is time to wait for its fuller cooperation. And the sun, of course, doesn't always seem to shine. There it is, we know, behind those clouds or that wall or above those closely knit branches or foliage, but what we want is light on the subject.

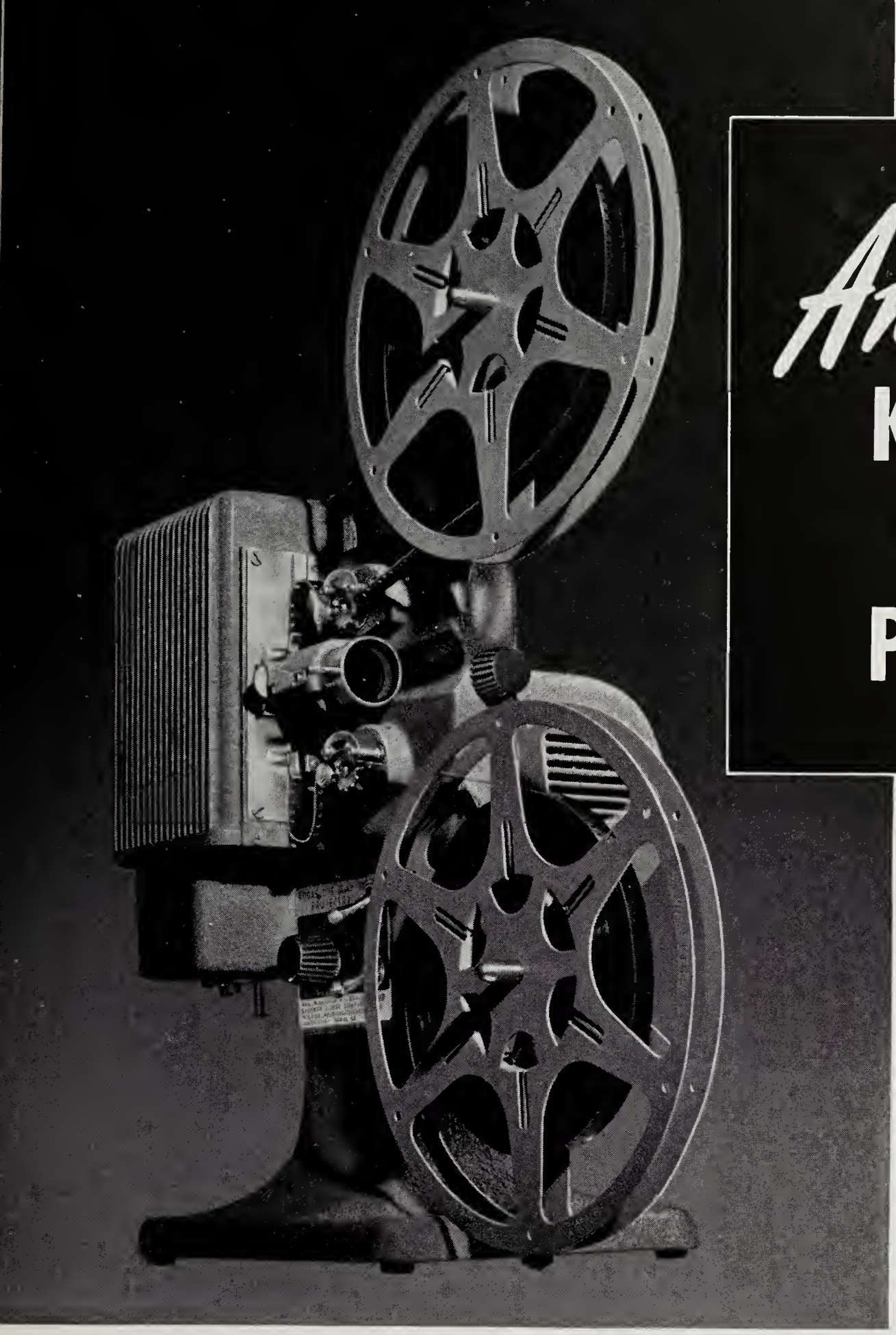
Most color filmers think of color filming as possible only with a brilliant sun. Nothing could be further from the truth. Color motion-picture film has ample "speed" for other than sunny days; as a matter of fact, the filmer who sticks to brilliant sun exposures will end up with footage that is monotonous through its bright sameness. People living in low-rainfall areas get pretty fed up with sun, sun, sun. They long for rainy days and relief of dull skies. And color film will take pictures on those dull days—yes, even on rainy ones.

The great trouble with most filmers is that when bright conditions change they think in terms of light quantity. "There isn't enough light," they say to themselves. That is the wrong approach, for there is usually enough light on almost any kind of day. Your camera patiently waiting, ready and able to do its job, will regard the situation very differently. It won't worry. Its light appetite remains the same on bright days or dull days. It simply requires the same amount of light all the time. Here is the reason:

The film behind your camera lens is composed of chemicals which react to light. When light strikes the film there is a chemical change. The speed of that change is dependent on the amount of light. A certain amount of light does the job precisely so that the filmed scene finds its counterpart behind the lens. If there is too little light to register, the result is under-exposure, which means dark pictures. If there is too much light, the chemical reaction is too great, the film counterpart of the original goes beyond the proper color value, and over-exposure, with washed-out-looking pictures, results.

The whole process is something like the digestion story told by Dr. Rockwell, of vaudeville and radio fame. Dr. Rockwell contended that mastication should not vary from one mouthful to another. If a piece of steak were the subject, the digestive juices, altered by chewing, would be ready and waiting to do their digestive job. Should the steak be swallowed before sufficient chewing warning, the digestive juices would be so taken

(Continued on Page 334)



Announcing...

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"EIGHT-71's" superb, completely *Lumenized* optical system, featuring the Kodak Ektanon 1-inch *f*/1.6 Projection Lens, teams with a powerful 750-watt standard lamp to provide abundant illumination for average use. But whenever you need it—for *big* 8mm. screenings in spacious rooms—*super*-brilliance is at your finger tips. Just touch an ejector to free the standard lamp . . . replace it with a 1000-watt accessory lamp . . . and Kodascope Eight-71 Projector provides unsurpassed 8mm. screen brilliance!

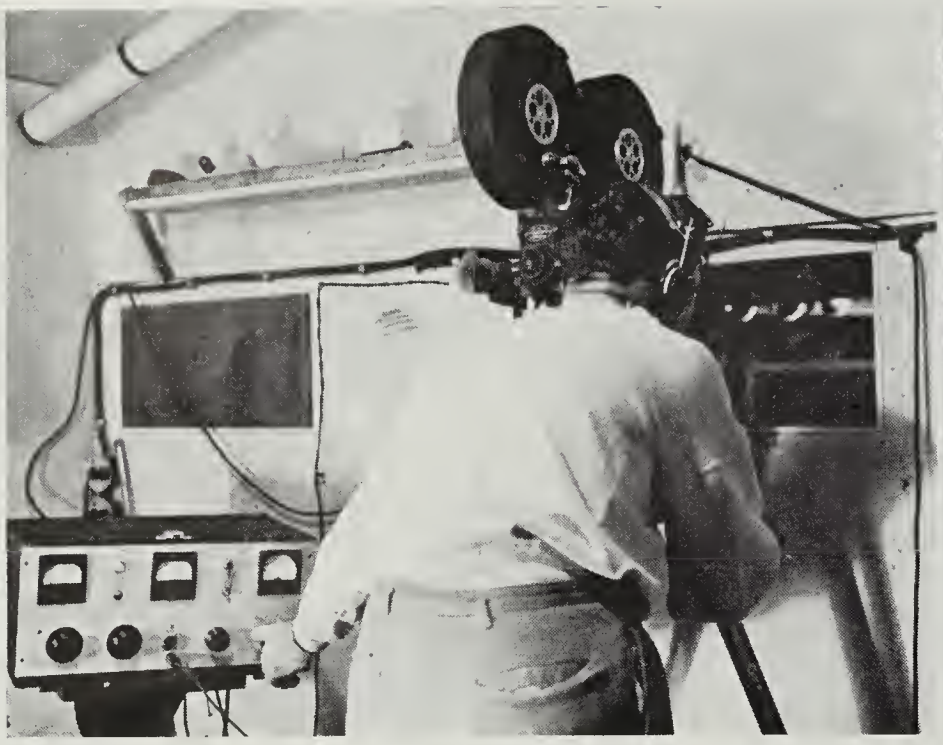
Other features, too—400-foot film capacity for 30 minutes of uninterrupted movies. Easy-action controls handily centered on a panel at the side of the machine. Motor rheostat that lets you adjust film flow. Cast-in handle for convenient carrying. Friction-free safety shutter, moulded-rubber interior drive, and an easy-running, air-cooled motor for *quiet*, comfortable operation.

There's every assurance for long projector life . . . every safeguard for your film. Unique baffling in the condenser and aperture systems cuts out nonuseful light to eliminate excess heat at the film gate. An efficient fan and air-circulating system keep the whole machine cool even after hours of operation. And there's an air-operated safety shutter that cuts in automatically when film flow is adjusted below the safety point.

Trimly handsome . . . of rugged, die-cast aluminum construction . . . thoroughly competent on every count, *this* projector sets new standards of 8mm. value. Plan to see the "Eight-71" Projector soon—at your Kodak dealer's.

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TECHNICAL equipment is all concealed in this room which overlooks the classroom. Both photography and projection are accomplished through the two rectangular ports. One operator runs the camera, also rides gain on sound through an audible volume indicator.



CLOSEUP of the front of the classroom during the filming. Microphone may be seen hung from ropes which pass over pulley system to the photographing system in the next room. Curtains behind the student conceal the screen on which films are screened later for the class.

Teaching Speech With 16mm. Movies

Movies made in classroom aid students sharpen speaking technique.

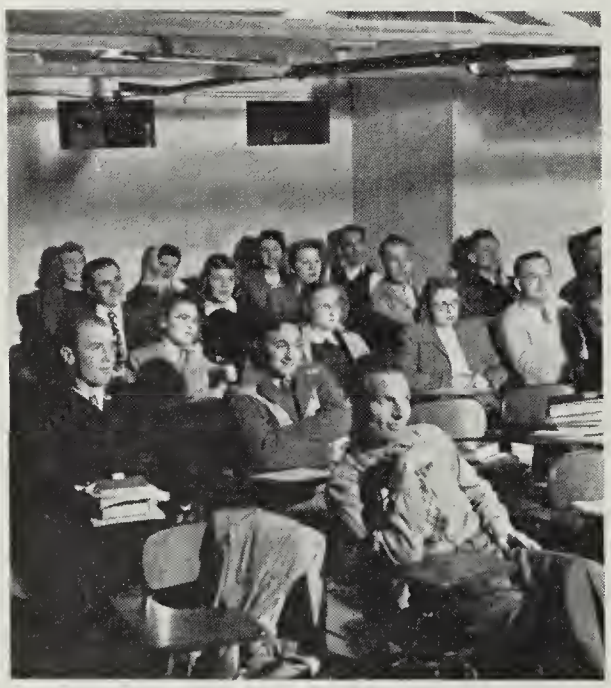
By R. WILLIAM STANMYRE

IF ANY minor good may be distilled from the evils of war, then surely this is a case in point: fossilized American Education has been jolted loose from its platitudes by the wholly fine job of teaching with visual aids demonstrated by the armed services during the war.

The result is almost a renaissance in those branches of education where the audio-visual library is most nearly adequate. On the other hand, educators whose particular fields are less generously represented in the literature are boldly conducting their own experiments in the new medium. This is a general report on one such experiment.

Over four years ago, the director of the School of Speech at Syracuse University approached the author with the idea of filming entire classes in public speaking. The theory behind this proposal is pretty much in line with the much-quoted expression of Bobby Burns: "Would to God the giftie gie us, to see [and hear] oursel's as others see us."

The project would be reasonably free of technical bugs if it were feasible to record double-system in 16mm. or single system in 35mm. However, it was obvious that the thing could develop into a useful tool for speech training only if the cost per student could be held to a figure comparable to the purchase of a textbook, and this pointed inevitably to the use of single-system sound in 16mm. From this necessity there arose two whole families of problems, one group primarily associated with the technical shortcomings of the medium and the inadequacies of its instrumentation, and the other stemming from the behavior patterns peculiar to that entity called "the Class."



SYRACUSE University public speaking class watching films of their own speeches. Projection room at rear also houses camera.

The aim was to photograph and record each student as he delivered a speech as a regular class assignment; the problem was to get satisfactory sound and picture simultaneously and consistently on a single reversal film. This would logically point to the use of a slow, fine-grain stock. So the first experiments were run in a regular classroom with lighting of 250 foot candles. It soon became evident that no amount of reasoning could induce the student to act naturally in front of the lights. In addition, the novelty of a sound camera in the back of the classroom was generally sufficient to upset the equilibrium of the group. Some instructors encouraged a festive mood to the occasion; others started each class session with a lengthy dissertation as to why the student should pay no heed to the lights, the camera, the microphone, or the photographer. Neither attitude might be considered conducive to an orderly classroom. Too, the mechanics of frequently reloading the camera resulted in a definite and disconcerting suspension of normal procedure.

If these problems sound discouraging,

(Continued on Page 338)



You can almost sniff the season!

A crisp autumn day makes you want to reach for your camera as quickly as you do for a woolen shirt.

People *do* things when the hot summer is done and the air takes on a tang. And people *"doing things"* calls for movie making—and Ansco Hypan Film.

For Hypan's fine grain and brilliant contrast will bring sharp, clear images to your movie screen—objects and people that "stand out" from their backgrounds and capture for you a "real life" feeling.

Add to this Hypan's marvelous panchromatic color balance and you're almost certain of outstanding results!

Why not give yourself this Ansco advantage the very next time you take your own movies? Your dealer has Ansco Hypan in both 8mm and 16mm rolls. **Ansco, Binghamton, New York.** A Division of General Aniline & Film Corporation. *"From Research to Reality."*

TIPS ON TITLES Take a big plump pumpkin and lightly carve the title. Set it up before a dark backdrop, scatter a few autumn leaves around. Create a "moonlight" effect by lighting the set-up with a single floodlamp shining in from an angle.

ASK FOR

Ansco

8 and 16 mm
HYPAN FILM

ECLAIR CAMERETTE

(Continued from Page 321)

containing sprocket, pressure pads, and footage indicator. The automatic film gate magazines, 100′ or 400′, can be used interchangeably, being instantly attached and locked to the main unit by simple pressure of the hand. Unlocking is obtained by simply pressing the locking knob. Loading the film gate magazines may be done in darkroom or changing bag; control of loops is possible in daylight and is not critical. Film wound either emulsion out or emulsion in can be used. It is possible to change magazines while the camera is in operation. The total weight of the Camerette with 400′ magazine and three lenses is 14 pounds.

The camera maintains its steadiness by a system of pressure pads and spring guides which keep the film traveling in a straight path past the aperture. Tests have proven it to be absolutely steady. The front aperture plate of hand polished steel is undercut except along the edges of the film. The pressure pads, which are on the magazine, are of a fibre material, with a spring suspension construction that makes scratching of film impossible. Gear drive from the motor connects with a gear in the magazine which operates the film take up. Tension is maintained from the feed spool, and the direct takeup effectively prevents any possibility of buckling.

The shutter blade, in front of which the reflex mirror is placed at an angle of 160°, has a maximum aperture of 200°. This is adjustable to 40° by means of a graduated shutter disc sliding behind the reflex mirror controlled by an exterior knob. The image is viewed directly through the taking lens by means of reflection from an unbreakable polished mirror, inclined at an angle of 45° and placed in front of the shutter and rotating with it. The unique principle has the advantages of accurate framing with no parallax, and makes it possible to follow focus visually during shooting. The viewing image is transmitted by means of a ground glass and prisms to the magnifying eyepiece. This eyepiece is fitted with a focusing adjustment, and can be set in three positions. The vertical one allows the cameraman to easily follow the action when the camera is placed on the ground position, made possible by the camera's flat base.

A specially-built small and very light weight six- to eight-volt motor also acts as a handle for the camera, and is fitted with a rheostat for speed adjustment between eight and forty frames per second, and with a switch specially designed to overcome stationary inertia. On the left side of camera is a tachometer which registers speed of the camera movement ranging from 8 to 40 f.p.s. The motor is operated by a non-spillable battery of light weight and flexible design that may be carried by the operator belted about the waist. The battery is rechargeable and will drive up to 4000 feet of film on one charge. Provided also is the alternative for using a spring motor drive or hand crank.

The turret is of the divergent type so that any lens from a 24mm. to a teleobjective can be operated without optical interference. This is the first 35mm. reflex motion picture camera allowing the use of lens of a focal length less than 30mm. It is possible to use objectives of as short a focal length as 24mm. The standard mounts are of bayonet type, fitted with grips for focusing, and lens hood with spring grips in which either the metal lens cap or filter holders can be inserted. Keneoptic lenses made in Paris, which are F.2 coated apochromats, are normally furnished with the camera, although any other lens could be fitted in the standard mounts.

A special telescopic tripod, built of cast aluminum, weighing 13 pounds, is part of the standard equipment. The tripod head is fitted with a special dovetail receiving the flat base of the Camerette, and locked into place by means of a spring bolt. The tripod head is instantly detachable from the tripod legs by a clamp, and can then be clamped to any other object, with provision also made for the attachment of an auxiliary clamp to permit the clamping of the tripod head in either horizontal or vertical position.

The utmost precision and quality control are maintained in the manufacture of the Camerette. It has been used successfully in both extremely cold and extremely hot climates. Among famous users of the Camerette are Rosselini, Jean Cocteau, and Orson Welles. More recently the Camerette has been demonstrated to heads of the various Hollywood studios where it has aroused tremendous interest among cameramen and technicians.

Cine-Craft's "Junior" Movie Studio



Los Angeles' non-professional movie makers have access to professional movie making equipment and service at Cine-Craft, nation's first "junior movie studio" for movie makers. Here may be found every facility for photographing, recording and processing 8mm. and 16mm. silent and sound films.

Cine Craft, 8764 Beverly Blvd., Los Angeles, is a unique cine center for Los Angeles' amateur movie makers. Here the cine fan may buy or rent every conceivable item of equipment and accessories for making silent or sound movies.

Suppose you wish to shoot a reel of movies of your child at the time he takes his first steps, and make it in sound. At Cine-Craft you may rent a Berndt-Bach sound camera, use their studio and lights, and make the sound film yourself at modest cost. If you are more ambitious, say wish to produce a short commercial or television film, Cine-Craft will rent you the sound camera, sell you the film, re-

cord the sound and develop and print the completed production.

Behind this unusual cine center is George Widing, once a cameraman for Thomas H. Ince. His service begins where the average camera store's leaves off. "You'd be surprised," Widing says, "how many people who buy their movie cameras at downtown stores, bring them to me for instruction on how to run them. Here we take the time to help the amateur with his problems."

Cine-Craft services the 16mm. professional motion picture makers, too. Their processing, developing and printing are in steady demand because they render a "custom" service. Widing's lab makes sensitometric tests every day. They never dump their chemicals. Instead they add to or replenish them. "This keeps the chemical activity even," says Widing. "We thus have established a 'norm' which our customers can shoot for, knowing that in so doing they will be guaranteed consistent quality in prints or reversal processing.

"Our aim here at Cine-Craft is to provide a miniature 'M-G-M' for the serious movie amateur, the semi-pro and the professional 16mm. movie makers, combining individual counsel with helpful service and a wide range of equipment for the 8mm. and 16mm. movie makers of Southern California."

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HERE is a magnetic film recorder engineered especially for high fidelity sound for motion pictures — entertainment, industrial, educational, television — and for radio. It affords tremendous savings in sound recording costs, permits instantaneous check of sound quality and makes possible the recording of sound on locations and under conditions not possible with regular optical recording equipment.

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COLOR MOVIE MAKING FOR EVERYBODY

A Question-and-Answer Handbook by CANFIELD COOK

COLOR MOVIE MAKING FOR EVERYBODY fills a real need for filmers . . . a full, complete and practical guidebook with hundreds of fascinating ideas for making better color movies. At all bookstores.

Answers such questions as:

- What is the minimum equipment essential to good indoor pictures?
- How should I lubricate my camera to make sure it is in proper working condition?
- How is a range finder used?
- What advantage is there to using coated lenses?
- At what angle should the camera and lights be used in mirror filming?
- How can I make splices that will be sure to hold my film together?
- How should color films be stored after exposure and before processing?

● The complete guide for beginners . . . a valuable refresher course for experienced filmers

COLOR MOVIE MAKING FOR EVERYBODY is an easy-to-understand, convenient-to-use handbook that will answer your question: "How can I make better, more professional movies?" Mr. Cook covers all the problems that beset the beginning—and even the more advanced filmer. Clearly and concisely he offers proven advice on every step in color filming from choosing equipment to editing and showing excellent films.

● Handy questions-and-answers

Written in question - and - answer form, COLOR MOVIE MAKING FOR EVERYBODY gives detailed information on hundreds of actual problems which Mr. Cook has been asked to solve in his lectures, his courses in color motion-picture photography, and by mail. He shows you how to get the most out of colors; how to avoid mistakes in lighting; how to build a movie that has continuity and form. He gives you "professional" tips on trick-shots, close-ups, titling, and making your own sound track. Special chapters discuss the ins-and-outs of equipment, lenses, handling the camera, indoor and outdoor lighting, filters, continuity, composition, projecting, etc. Also you will find valuable tables and data on lighting, width and depth of field, scene length, projection distance, and a helpful bibliography of magazine articles and books on special aspects of movie making.



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LIGHT ON THE SUBJECT—OUTDOORS

(Continued from Page 328)

aback they would be caught off guard and hence too flustered to do their job. If, on the other hand, the chewing took too long, they would get fed up with hanging around for the expected steak and not be on hand when it finally did arrive. Dr. Rockwell advised consistent chewing.

And so with the film. The light intensity reaching the film must be consistent on each and every exposure to bring about the right chemical reaction. Exposure of the film, mind you—not lens diaphragm setting. The method of control is very easy. If the camera operates at a constant shutter speed, the lens diaphragm can regulate the light on an even scale. If, for slow motion or other abnormal filming, the shutter speed is changed, then a proportionate change is made in the lens diaphragm. So, to get consistently exposed pictures your problem is the simple one of letting the same amount of light reach your film on every kind of day whether it be bright or dull. Obviously, this is done by adjustment of your lens diaphragm. If the day is dull, you open it—not to let in more light but to let in the same amount of light that reached the film during the brighter filming period when the diaphragm was closed down.

This will bring consisent exposure but not necessarily consistent brightness to your films. Obviously, too, if the scene includes, let us say, bright water reflections under a full sun, these will be absent if filming is done under a leaden sky. But as the values of one are correct so will the values of the other be correct if the same amount of light has reached the film and correct exposure applies to both.

"But how," you will ask, "can I be sure that the same amount of light will reach my film? On the dull day a wide aperture will apply, and on the bright day a small aperture will apply." That is perfectly true, and you have made the greatest step in arriving at correct exposure if you associate the bigger numbers—which means small lens-diaphragm openings, or stops—with bright days, and the smaller numbers—which mean large diaphragm openings—with dull days. But within these two divisions are several stop numbers, and you want the right one. You can come very close to that right stop number without "bobbing around with an exposure meter," as one questioner puts it.

The easiest way for a beginning filmer to arrive at a standard which will assure him brilliant, consistently exposed pictures is to stick to that condition which is least variable. This condition is an unobscured sun. As the camera registers only the light reflections from the subject, these reflections will vary in intensity according to both the camera's and sun's angle to the subject. The angle that can be kept constant is achieved when the sun and camera both point toward the subject in the same direction. This means that a sun that is behind the camera when the camera is full on the subject. Let the camera or the sun be to one side or the other or behind the subject, and your light reflections will change to a lesser or greater degree.

These changes will account for changed exposures in your pictures, and even though you stick stoutly to bright-sun filming, exposure that is way over or way under will result if you also stick to the same lens-diaphragm opening when your "bright-sun" angles change. If you would like to have a formula that will assure consistently good outdoor films and your camera shutter operates at or near 1/30 second, here it is: Stick to days when the sun is unobscured by clouds, haze, or anything else, including tree branches or foliage. Aim your camera at a scene or subject floodlighted and frontlighted by this sun on the same line as your camera angle. Slight variance, as from "an over-the-shoulder sun," will add a very slight modeling effect without affecting exposure. Set your exposure at f/8 and film.

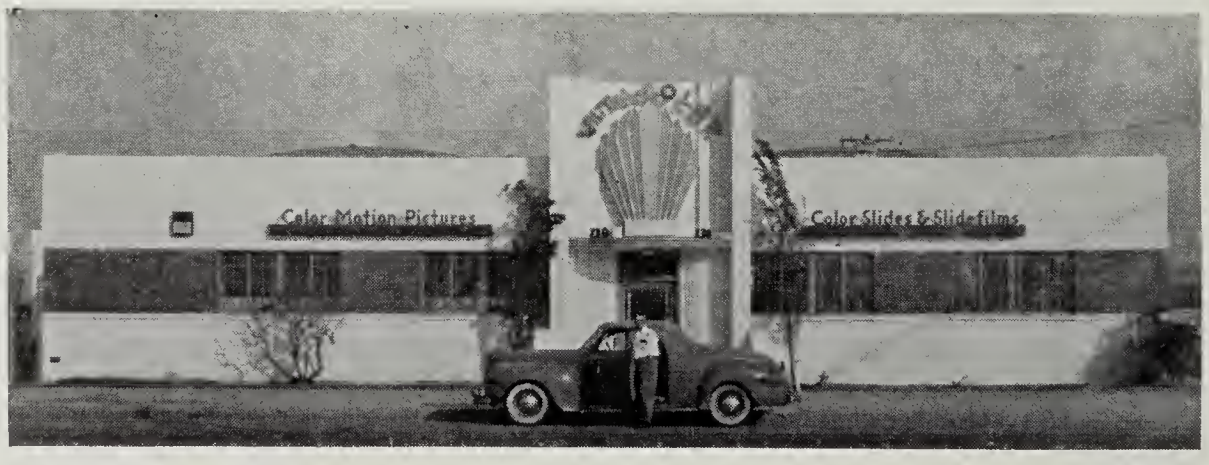
Unless your camera is operating improperly or you have not followed recommended filming hours, this will assure you of good pictures not just once but always. The check for this formula will be in the processed film.

Almost all motion-picture cameras have their inbuilt exposure guides which, if carefully followed, will bring excellent exposure results. But be sure it is a color filming guide and not a black-and-white filming guide you are using. Cameras made 12 or more years ago—before the advent of color film—give only black-and-white guidance. Too, in using either these camera guides or the ones available through the color-film manufacturers it is far better to master one "sky" condition at a time than to jump from one to another. Then you can better check your interpretation of the various conditions set forth. Best filming check, of course, is the accurate, correctly used photoelectric-cell exposure meter.

The "unobscured-sun" condition is the one which applies to more of the filming year than any other. But it will not apply—unless you doggedly determine to use it for all filming—during a great part of the time when you will wish to film. Nor should it. There will be the hazy, cloudy, murky, rainy, even

(Continued on Opposite Page)

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snowy days when you will want to film and can. But when you get into these conditions the standard charts based on sky readings cannot be reliable, for your interpretation must match those of the guide maker for accurate results. For these conditions it is better to use the exposure meter consistently rather than to estimate one time and read the meter the next.

And under each sky condition come the varying conditions of shade. The shadows may be "soft" or "strong," and both have their light-intensity subdivisions. The camera manufacturers may set these forth with what appear to be simplified recommendations and indicate that using the recommendations will assure good color films. But I say to you again—having no ulterior motive in making color filming appear any simpler than it actually is and holding no stock in either camera or exposure-meter companies—get an exposure meter if you wish to explore variable light conditions.

Light on your subject can be of many types, but only light intensity as reflected to the camera can regulate exposure. It has been previously stated that an incorrect light-source color has a deleterious effect. Whatever this color, the same exposure variables still apply. While the eyes may not be able to ferret out color changes as accurately as the camera lens, the conditions which bring about light-source changes are well known, and many can be corrected.

With every package of color film comes the recommendation that outdoor filming be confined within those daylight hours when the sun's color most closely approximates that for which the film is balanced. Films taken too close to sunrise or sunset are influenced by the stronger red-orange rays prevalent at those times. I believe this caution has kept filmers from some most effective shots.

THE DANCING SHOES

(Continued from Page 319)

"it was just a matter of routine matte printing."

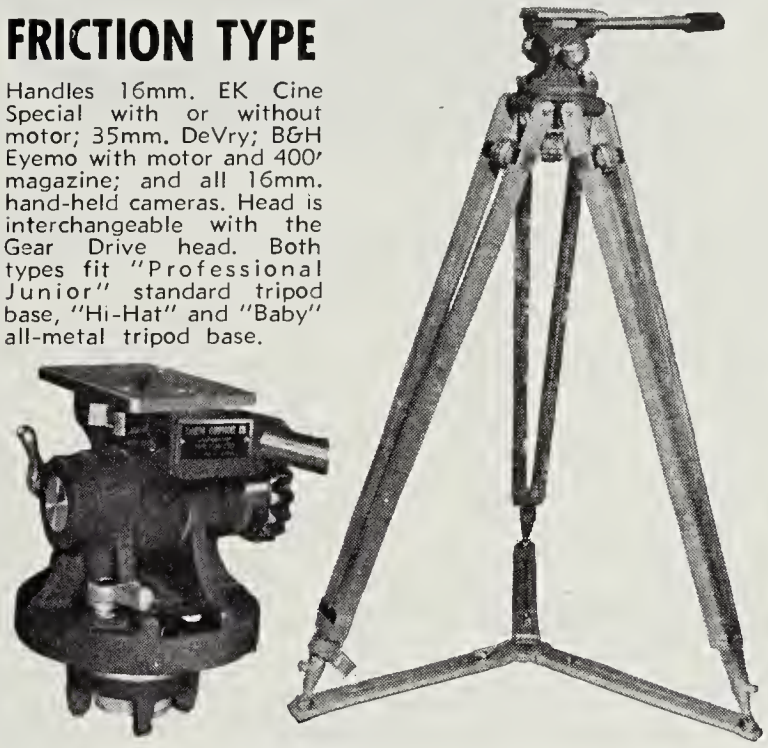
Although "routine" to Ries, the technique of travelling matte printing is still something of a mystery even to many professional movie makers, and would require more space than is available here to explain it fully. But roughly, it consists of superimposing a figure (or figures) in a scene when printing the film, rather than by double exposure, as in early days of cinema trickery. The travelling matte, which is made photographically, consists of a strip of clear film,

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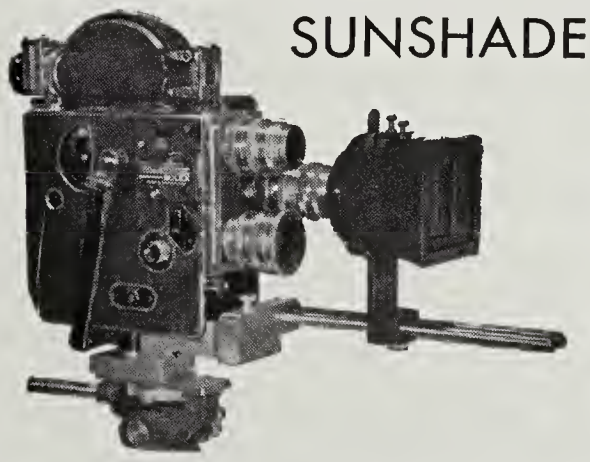


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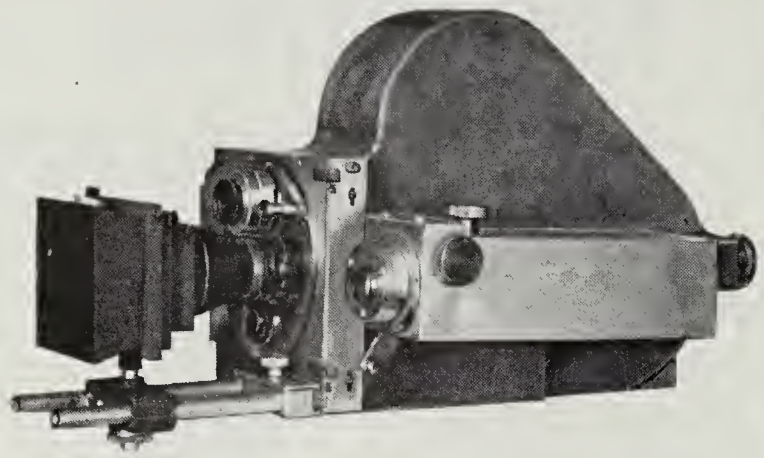
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with the area corresponding to that of the figure to be printed in, fully opaque. This, when combined with the negative, leaves unexposed on each frame of the film the area that will be occupied by the figure to be superimposed in a subsequent printing step.

In the case of the dancing shoes a matte was made to blank out the area on each frame representing the shoes. This allowed the shoes subsequently to be printed in, a step which, because of carefully controlled exposure and printing light, made the shoes appear as though they were photographed simultaneously with Fred Astair.

"The 'dancing shoes' sequence," said Ries, "required two months to conceive and execute. We shot all the action on stage in 3 days. The rest of the time was spent in making the mattes, doing the animation work, and finally the printing by Bill Ulm, my assistant."

Irving Ries has been with M-G-M twenty-five years and is one of the several employees who deservedly share in that studio's silver anniversary by virtue of seniority. Ries, along with such old Metroites as John Arnold, A.S.C., John Seitz, A.S.C., and others, were virtually part and parcel of Metro when that studio was merged 25 years ago with two others to form the present Metro-Goldwyn-Mayer. Shortly afterward he took charge of M-G-M's optical printing department.

Recently Ries and his staff perfected an improved method for making mattes photographically for optical printing—a method that affords precision and speed of production heretofore unobtainable by any other system. It is likely the new method will be nominated for an Academy Award in the Technical Division, come "Oscar" time next March.

In the meantime, Irving Ries—the quiet, unassuming effects magician at Metro—deservedly is taking bows for the dancing shoes sequence, considered the high spot in "Barkleys Of Broadway," and which, to hear Ries tell it, was just another routine job for his optical printing department.

SOURCE LIGHTING

(Continued from Page 324)

one entrusted with actually staging the action of the film, his artistic viewpoint should be of prime concern to the cameraman.

Having decided the predominant mood and lighting key of each sequence, the cameraman is now charged with the responsibility of conveying these ideas to film. Here again the rule, "Follow the natural source," comes into play. The establishment of the basic source is usu-

ally quite simple. For a daylight exterior sequence, the source would naturally be the sun. For a similar situation staged at night, the source would be the moon. For a daylight interior, the source would be the sun's rays reflected through windows and doors. For a night interior, the basic source could be a lamp, chandelier, open fireplace, etc. These various source lights differ from one another in two respects: *quality* and *direction*.

The quality of harsh sunlight, for example, is quite different from the softer quality of moonlight. Similarly, the harsh quality of light from an overhead bulb would differ greatly from the softer glow of an open fire. The direction of light is also important. At noon, for example, the light of the sun shines from directly overhead, casting deep and angular shadows on faces. At sundown, the same natural source emits a quite different quality of light. Now the illumination is flat and the modeling of facial features under such light is much more subtle. The prime rule, then, is first to determine the direction and quality of the light source indicated in the script, and to select and place lighting units accordingly.

Let us say that, as a general rule, the key light should emanate from the indicated natural source. It is therefore the brightest element of the scene, and the closer the actors approach the source, the lighter they will become. The key light should be placed as close as possible to the particular element emitting the source light. Therefore, if the indicated source is a table lamp, the spotlight simulating that source should be placed as close as possible to the lamp itself, but out of camera range. Having established the source and placed the key light accordingly, it is essential that the relationship of the light source to the actors and the setting be kept consistent throughout the sequence. A certain amount of "cheating" is permissible and even necessary in some cases, but it should never become obvious.

Except in very dramatic sequences, the key light used alone will produce an unpleasantly harsh effect. Some fill light is clearly required. It is presumed that the fill light is either a diffused reflection of the source light, or that it is produced by lesser elements of illumination within the scene. In either case, the fill light must be kept subordinated in intensity to the key light. Thus, if the key light consists of a Senior spotlight, a suitable fill light might be achieved through the use of a Double Broad or a No. 4 photoflood. A softer fill light is produced through the use of diffusion silks or gauze in front of the lighting units.

Quite often it becomes necessary to



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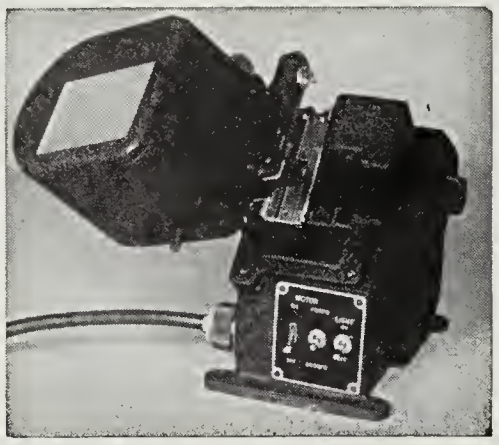
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modify a natural source of light to more closely fit the required mood of a sequence. For example, a tragic sequence played in noon sunlight is dramatically incongruous, and somewhat weak. The same action played in the long shadows of sunset or by moonlight would be much more dramatic. Where a situation of this sort arises, it is usually possible, through conferences with the director, to shift the time element and thus modify the need accordingly.

The term "practical" refers to lighting units (such as lamps, chandeliers, etc.) which are actually shown within the scene as indicated light sources. Clearly, the practical should be brighter than anything it supposedly illuminates. Thus the whole lighting balance of the scene is indicated by the light level of the indicated source. Practical lamps are usually fitted either with photofloods or with ordinary bulbs that can be boosted by means of small transformers.

When the full light from a source falls directly upon a subject without encountering any intermediate obstacle, it illuminates the subject as undiluted raw light. Both sunlight and artificial light can come under this classification. While raw light is dramatic and quite appropriate to certain themes, it can also be harshly unkind to the subject. Therefore, in most cases it is advisable to tone down the light by means of a scrim (in the case of sunlight) or a diffuser (in the case of artificial light). Raw light falling upon a background is usually somewhat undramatic, especially when large bare wall surfaces are involved. It is better to "break up" such surfaces with shadow patterns appropriate to the mood of the scene. Such patterns can be cut either from opaque black material or from wire screen where a less dense shadow is preferred. The pattern itself may simulate tree branches, window panes, iron grillwork, or any less definite pattern. The distance from the background light source to the pattern will govern the relative sharpness of the projected image.

Quite often in order to simulate realistically a main source of light, it is necessary to reflect light onto the set. For example: on an early-morning interior set, the highest key of light would be the landscape background shown through the windows. Most of the light illuminating the room would naturally be the reflection of the sunlight itself. In order to simulate this peculiar type of diffused illumination, one would reflect light onto the set by means of a large white cloth or dull silver reflectors.

Simulating daylight on an "exterior" set shot indoors has become standardized technique in the studios, but for the less professional cameraman it poses certain problems. In planning such lighting, it is well to remember that the sun is a single bright light source, and thus a lamp of sufficient brilliance (preferably an arc) should be used as the key light. In such sequences the key light should also illuminate the background or appear to do so. Some fill light may be used, but it should be held to a fairly high contrast ratio. Back lights and kicker lights may be used but should be kept subtle.

In lighting a moonlight scene, a single bright source light is also indicated, but the level is lower and the background is kept as dark as possible. Candle-light and lamp-light present peculiar problems of simulation. Such light is diffused, and should appear to be coming from the direction and level of the candle or lamp itself. When shooting a group seated around such a source, for example, the figures would be illuminated by individual spots shooting across the table at the figures facing the camera. Foreground figures with their backs to the camera should be allowed to fall more or less into silhouette.

The light of a match or cigarette can be simulated by taping a small projection-type bulb onto the palm of the actor's hand, fading in this light by means of a rheostat to coincide with the action. Camp-fires and fireplaces produce their own peculiar type of source lighting. There are two acceptable methods of duplicating the flicker of raw firelight. One is by moving a small tree branch irregularly in front of the source, and the other is by actually using flames or smoke in front of the key light. In most cases, such an effect is more realistic if the key light is slightly diffused.

Simulating a light source need not be a complicated task for any cinematographer. It is necessary only to analyze the indicated source of light in terms of *quality* and *direction*. Select lighting units that will most nearly simulate the quality of the required source, and then place them where they can duplicate the direction of the natural source. Unmotivated light sources are a sure sign of the amateur. To insure a professional touch in your filming, "Follow the natural light source."

TEACHING SPEECH

(Continued from Page 330)

they are nevertheless easy to solve. However, processing control was quite a different matter. Investigation indicated that quality control in most reversal laboratories—while entirely adequate for ordinary work—left much to be desired on a composite single-system film with

area track. There was a wide variation in track density, high-frequency loss, and distortion between two parts of a test roll which were sent to the same laboratory in two separate shipments. Actually, the 4500 cycle loss varied as much as 14 db due directly to processing. When the facts were presented to the laboratory man, his reaction ran something like this: "You oughta know better than try to get sound on reversal; shoot it double system!"

At the conclusion of the 1945-6 school year, the difficulties outlined above had been thoroughly digested, and plans for the next year were formulated on the basis of faster film with an absolute minimum of light, closer processing control, as practical, and an effort toward smoother classroom procedures.

The University was now in the midst of an enormous postwar expansion program. The film project was moved into a new prefab consisting of two classrooms separated by a slightly elevated control room for technical operations. The number of students was increased but each student was filmed only twice during the semester. Instructors were asked to treat the project without special observance so far as possible. Students were given a questionnaire on which to record their immediate reactions on the day when the films were first shown in class.

The third year, the lighting was further reduced in the area where the speaker stood. The general illumination level of the classroom was raised to a higher level so that the student felt less "in the spotlight." A synchronous timer, coupled with the camera motor, was placed on the wall of the classroom so that the amount of film in the camera was visible at all times. The cardioid microphone which we had felt was the best for the purpose, was discarded in favor of the miniature condenser type. This resulted in a higher average recording level, less change in quality as the speaker moved about, and a better general quality.

A special AC operated amplifier was built around a standard backward-acting limiter. A special circuit in the galvanometer line is adjusted to trigger an audible indicator in the earphone circuit when the level reaches 100%. This makes it possible for the camera operator to ride gain without watching meters and thus eliminates the sound man. The microphone is not on a boom, but it can be raised or lowered from the operator's position by a simple rope and pulley arrangement.

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of processing yielded better sound than had been previously obtained on a finer-grain material. The best tracks were obtained with track densities somewhat lower than normal for reversal processing, namely 1.2 to 1.4. With careful control, a fairly consistent recording characteristic was maintained out to 4500 cycles.

By this time the element of quantity became of a magnitude to cause special concern. In the spring semester 1949, for example, the schedule called for filming over three hundred speeches running 2¾ minutes each, in less than four days. This called for almost continuous operation of the camera, hour after hour, a demand which probably has no parallel in the entire field of motion picture work, with the possible exception of tele-transcription.

The present camera is a mongrel which incorporates a standard area galvanometer, the quiet and durable Auricon film movement, a heavy-duty hysteresis motor, and standard 35mm. 1000-foot film magazines modified to handle the narrower film. Ten students are filmed on a 1000-foot roll. Where a section includes no more than twenty students, it is possible to film the entire class in two uninterrupted sessions. Under these circumstances, classroom procedures are very close to normal, and cases of "mike fright" and "camera shyness" are practically nonexistent.

Presently, then, we are engaged in the quantity recording of student speeches on 16mm. single-system film at a very minimum cost. The student is not asked to buy a textbook for the semester in which he is filmed; instead, he pays $2.50 for his 100 foot sound film, and the balance of the cost is made up out of tuitions. The student takes his film home at the end of the year to show the folks.

Admittedly, the financial phases of the Syracuse film experiment may be open to some question and perhaps improvement. But after four years of experiment, we have every reason to believe that we have a terrific new tool for teaching "Speech 3B, Elements of Public Speaking."

TYRO IN TECHNICOLOR

(Continued from Page 323)

were of makeup and costumes, and these were required by the production office.

Ruttenberg had made up his mind that he was going to make simplicity the keynote of his photography on this initial color assignment. "Every man has his own particular taste for color," he said, "and with the cinematographer his color photography reflects his individual taste for colors, harmony, etc." Most of the techniques for modern black and white photography can be applied to color photography, he continued, adding that it is important to keep in mind when shooting any picture, be it black and white or color, that the dominant aim of the cameraman is to carry out the mood of the action. If the picture is a comedy, then it should be photographed in a gay mood; if it's dramatic, then a somber mood keys the entire photographic plan. These facts were the foundation of Ruttenberg's approach to the photography of *Forsyte Woman*.

Despite Ruttenberg's lack of experience with Technicolor, Miss Garson insisted that he do the photography on this picture, which was to be her first experience with Technicolor, too. He followed virtually the same photographic practices he had used on her preceding eight pictures—the same careful diffusion, balancing of light, etc. Of course, he had to increase the light volume for Technicolor. "It was a little difficult at first," he reflected, "having done black and white pictures for so many years, then suddenly undertaking a new medium that requires about 20 percent more light."

"When I first started photographing Miss Garson on the Minniver picture," he continued, "it took a little while to get the right lighting angles for her, as it would any cameraman. Like most screen players, Miss Garson looks her best on the screen when given careful, individual lighting. When the same cameraman works with a star, picture after picture, as I have done with Miss Garson, he naturally improves upon the lighting and photographic technique established for that particular star with each successive picture."

Now, having done nine pictures in a row with Miss Garson, she has come to depend upon Joe Ruttenberg to do the right thing by her photographically. This is a big help to her. She doesn't have to worry how she will look on the screen and thus may devote her entire attention to her acting, resulting in the standout performances for which she has become famous.

In *Forsyte Woman*, Ruttenberg encountered probably his most challenging problem in his many years as a director of photography. This was the sequence which called for photographing sustained action as players ascended a large stair-

case and then traversed a long balcony next to the landing. The Technicolor camera was mounted on M-G-M's giant camera crane. Then the action was carefully and frequently rehearsed while Ruttenberg and his assistants charted the course for his camera and the traveling crane on which it was mounted.

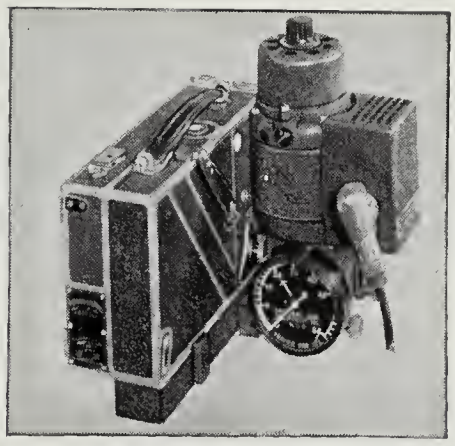
The scheme that finally evolved called for the camera to start at a low position at foot of the stair, picking up the players at this point, then follow them at close range as they ascended and walked half way around the U-shaped balcony. Getting the crane action smooth and precise was only half the problem. Lighting was the other, for Ruttenberg, a stickler for naturalness in lighting, insisted that the players—during the entire ascent of the stair and walk around the balcony—appear to be lit by natural source light. Gobos, gauzes, silks and every conceivable lighting adjunct was called into play to give the quality of lighting he desired. On the front of his camera, just above the sunshade, he mounted a "Junior" spot to furnish front fill light. The resulting scene, above all others in the picture, easily demonstrates how successful has been cinematographer Ruttenberg's transition from black and white to Technicolor photography.

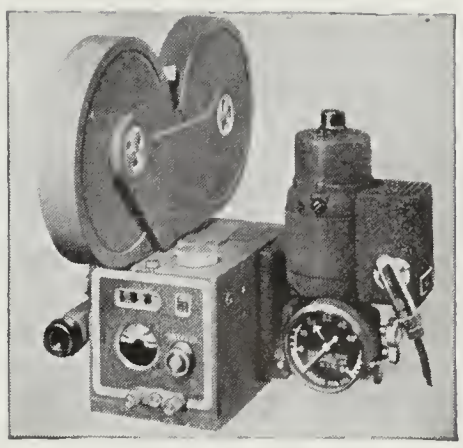
Another sequence, easily a high point in the picture, is the series of scenes in which important action takes place in a fog shrouded street. Fog photography is an old specialty of Ruttenberg's, yet he confesses he was a little apprehensive at first in lighting fog scenes for Technicolor.

"You can't light fog scenes with top lighting," he said. "So when I reached this point in the *Forsyte* script, I had no idea how fog would photograph in Technicolor. The first day I didn't use any color in the fog scenes at all. The result was decidedly gray and lifeless; so the next day we put a little warmth into the lighting and got a very beautiful effect."

Ruttenberg never used a fog filter to gain or even augment fog effects for *Forsyte Woman*. "You get no depth in the fog effect when a filter is used," he said. He pointed out how, when artificial but realistic fog was used on the set, more realism resulted. In his fog scenes for this picture, figures walking in and out of scenes or toward the camera change in appearance as the density of the fog increases or decreases with the distance between figures and the camera. In the picture we also noticed how Ruttenberg had injected a silhouette of some dark figure or object prominently in each fog scene as a strong compositional element.

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own peculiar methods or gadgets which aid them in arriving at the right answers for perfect photography. Joe Ruttenberg's ever-present miniature viewfinder is his invaluable aid in selecting right camera setups. He uses a viewing glass consistently in checking composition and light values in a scene. The rest comes from a noggin crammed full of photographic experiences that began when Joe forsook a copyboy job on the old *Boston American* to become a newspaper photographer. For many years thereafter his press photography graced the pages of Boston's leading dailies.

A few years later he got the idea to start a local motion picture newsreel. He knew nothing whatever about movie cameras, but he got hold of every book on the subject he could lay hands on; ate, slept and dreamed motion picture photography, then one day bought himself an old square-box motion picture camera. Together with a friend he built a small laboratory in his home where he could develop and print his newsreel films. Thus he was able to shoot newsreel footage, develop and print it and have it in the hands of the theatre manager on short notice. He had made a deal to supply Boston's leading cinema with one complete newsreel a week. Sometime later, he gave up this business to go into commercial and portrait photography. "It paid better than newsreel photography," he said, "and at the same time it prepared me with the knowledge of lighting that was to prove so valuable to me later in photographing feature motion pictures."

In due time, Ruttenberg came to Hollywood on a visit and was induced to take a cameraman's job at Warner Brothers Studios. This led to other assignments in Hollywood and ultimately to M-G-M where he has been one of that studio's ace directors of photography for the past fourteen years.

Recently he demonstrated his unusual versatility by coming off the *Forsyte Woman* picture and undertaking the photography of *Side Street,* a cops and robbers thriller, most spectacular scenes for which he filmed from a blimp cruising over New York City. Perched behind his camera mounted on a stout plank extending some distance out the door of the blimp's gondola, Ruttenberg trained his lens on the chase action staged in the canyon-like streets immediately below.

Attending an informal party one evening, after a day of shooting from the blimp, Ruttenberg was buttonholed by a guest unaware of his mission in New York. "Joe," he exclaimed, "I looked out of my office window this afternoon, and there was some crazy soandso hanging out the door of a blimp shooting movies!"

"Yeah," said Joe with a sly smile, "What some guys won't do to make a buck."

THE GARUTZO LENS

(Continued from Page 320)

shots, Glass shots, Miniature shots (both foreground and background) and panning shots that are unsuccessful with conventional lenses due to their distortion, will not only be made successfully with Garutzo balanced wide angle lenses but at lower light levels than at present.

4. Mirror shots with both the principal and the reflection in perfect focus are now possible.

5. Many instances in which it is important to convey the emotions of two or more widely separated principals in simultaneously critical focus can now be made with the Garutzo lenses, obviating the necessity to cut from close-up to close-up. This will enhance the dramatic value of the scene and automatically save production time and expense.

6. Uniform set-lighting will greatly simplify rearrangement of lights when moving from one set-up to another, or in switching from wide to narrow angle lenses, with consequent economies.

7. In the field of background projection, the Garutzo balanced lenses will open unprecedented opportunities. Uniform density over the entire viewing field together with the focal depth accompanying wide apertures will permit full use of the illumination of the screen; it will allow action to be staged much farther away from the screen adding a latitude of action unknown at the present time; lack of distortion at wide apertures will permit use of wider angle lenses in pro-- jection shots than now possible.

8. In trick shots, particularly where several planes of glass are used, the usable wide apertures of Garutzo balanced lenses will permit light levels of low enough heat value that the breakage of glass planes due to high temperatures will be negated.

9. A point of tremendous importance to the theatre-going public is the reduction of eye-strain in viewing a Garutzo-filmed picture on the motion picture screen. Viewed from critical side — or front — angles, the reduction in foreshortening and distortion is remarkably

noticeable and the lowered strain on the eyes is immediately apparent.

A commercial set of Garutzo balanced lenses consists of 25, 30, 35, 40, 50, 75 and 100 millimeter focal length lenses. E. Goulden, Inc., 5746 Sunset Blvd., Hollywood, has exclusive world rights for Garutzo lenses for the motion picture and television industries and have announced they are presently making them available on lease to motion picture producers. Among them, Lippert Productions, Inc., have been consistent users, having employed the lenses on such recent productions as "Deputy Marshal," photographed by Carl Berger, and "Apache Chief" and "Tough Assignment," both filmed by Benjamin Kline, A.S.C. Recently a reel of tests photographed by several studio cameramen using the Garutzo lenses were screened for members of the American Society of Cinematographers. The reel demonstrated several scenes photographed both indoors and out, first with the Garutzo balanced lens, then with an unmodified lens.

Soon to be announced is the application of the Garutzo modification to television camera lenses and to 16mm. camera lenses for commercial film producers.

THE AMERICAN CINEMATOGRAPHER AWARD

(Continued from Page 326)

film, and one 8mm. and one 16mm. non-member-made film. These films may be in black and white or color, with or without sound. They must be entirely amateur made. Any sound accompaniment must be the product of the filmer's own efforts.

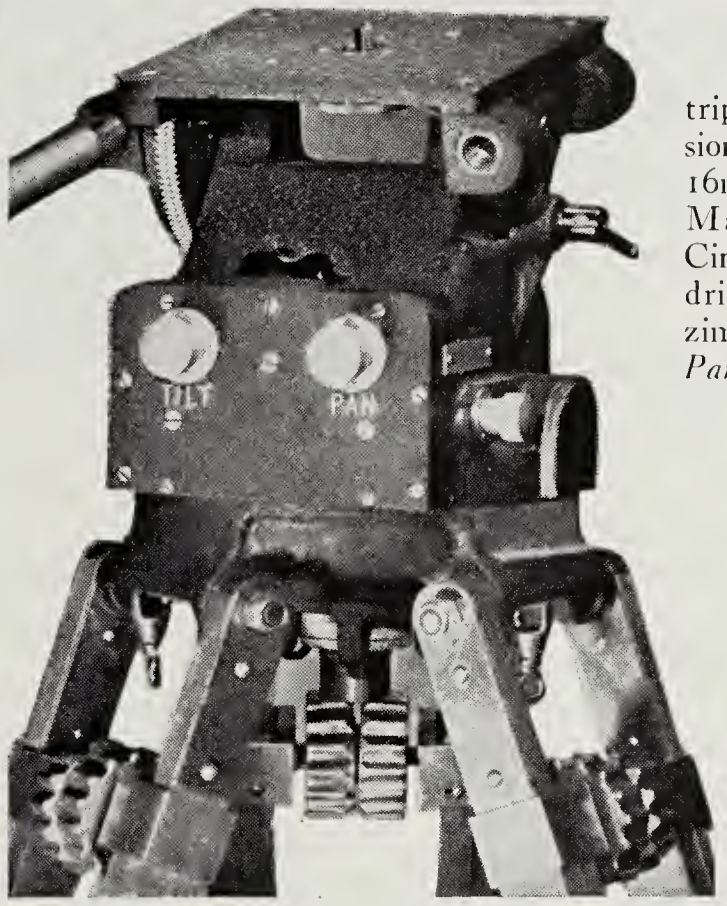
The competition affords the amateur the first real opportunity to show his work to Hollywood's professional cameramen. The panel of judges, to be announced next month, have been selected from the membership of the American Society of Cinematographers, all leading cameramen in the Hollywood motion picture studios. The films will be screened at the ASC's clubhouse.

Closing date for the competition—March 1, 1950—affords entrants the opportunity to submit films without endangering their chances in other film competitions, most of which terminate before December 1st. Films which are submitted in these contests, or which have previously won awards will *not* be barred in American Cinematographer's competition. Because so many fine films have been made during the past two years, many of which have received only scant recognition in local competition, the American

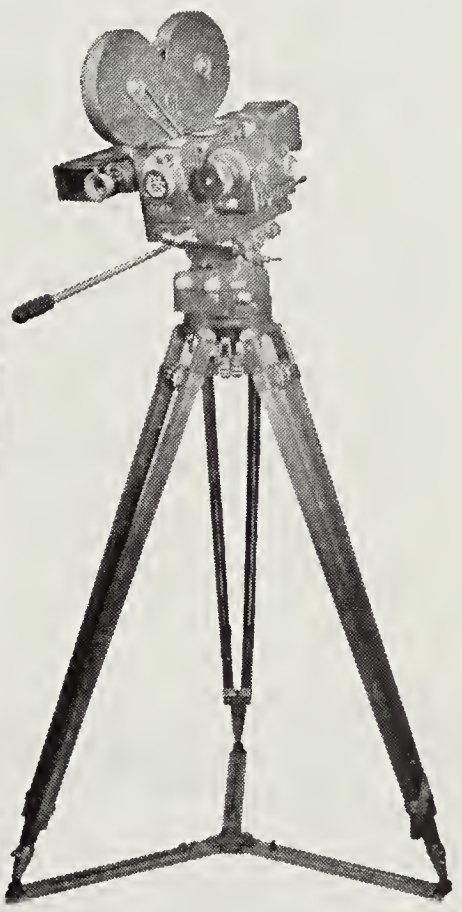
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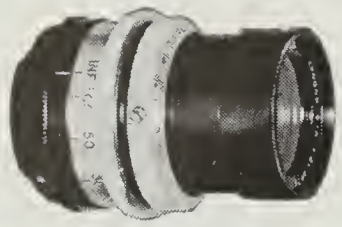
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The important rules applying to the Competition appear elsewhere in this issue. Additional information, announcement of judges, and a fuller description of awards will appear in subsequent issues of the American Cinematographer. In the meantime, here are pertinent instructions for those interested in the competition.

IF YOU ARE A CINE CLUB MEMBER— contact your club secretary or any of its officers and arrange to have your club participate in the competition. On page 326 is a request for entry blanks. Have your club secretary mail this as early as possible, thus indicating the club's desire to participate.

IF YOU ARE NOT A MEMBER OF A CINE CLUB — Inquire of your photographic dealer for the name and address of your local amateur movie club, or write to The Editor, American Cinematographer, 1782 No. Orange Drive, for this information. Indicate to this club that you wish to submit a film for consideration as a non-member entry in the A.C. Competition. They will notify you when to submit it.

Although the closing date for receiving entries in the competition is March 1, 1950, no films should be sent to the judges until after January 1, 1950.

HOLLYWOOD BULLETIN BOARD

(Continued from Page 316)

which was an Academy Award winner for 1948. Paul Eagler also won an Academy Award for special effects in "Portrait of Jennie."

•

RICARDO MARCELINO, one of the Philippines' outstanding cinematographers, was recently admitted to non-resident membership in the American Society of Cinematographers. One of his recent productions, privately screened for several members of the A.S.C., was enthusiastically acclaimed for its rare, artistic photography.

•

"SAVAGE SPLENDOR," rare color documentary on Africa, which highlighted the A.S.C.'s motion picture program on August 22nd, drew plaudits for its startling camera work, sound recording and editing. The picture, shot entirely in Africa in 16mm. Kodachrome with hand held cine cameras is also notable for the fine blow-up of the 16mm. footage to 35mm. Technicolor. Photography was supervised by Joseph Braun.

•

JOSEPH RUTTENBERG, A.S.C., has been sent to England by M-G-M to set the cameras rolling on Greer Garson's forthcoming picture, "The Minniver Sequel," to be filmed in London; also to make a survey of camera and technical needs for "Quo Vadis?" "Kim," and "King Solomon's Mines," which M-G-M will also shoot overseas.

•

WALTER STRENGE, A.S.C., has established something of a record for number of assignments received and executed in a single month. Within a 30-day period, Strenge shot a series of five historical pictures at Republic; did "Life Of Riley" in 35mm. black and white for television release; photographed the Hank McCune television shown in 16mm. black and white, and started shooting a 16mm. Kodachrome production of the Hollywood Pilgrimage Play in the Pilgrimage Bowl in Hollywood. At conclusion of this assignment, he will go East to shoot a Roland Reed production for U. S. Steel in Technicolor Monopack.

•

CHARLES LANG, A.S.C., currently assigned to photographing "Where Men Are Men," Bob Hope-Lucille Ball starrer at Paramount, was laid low with a case of mumps early in June. Stuart Thompson, A.S.C., carried on during Lang's illness.

CURRENT ASSIGNMENTS

(Continued from Page 314)

with Red Skelton, Gloria DeHaven, and James Gleason. Jack Donohue, director.

• CHARLES SCHOENBAUM, "Outriders," (In Technicolor) with Joe McRea, Arlene Dahl, and Barry Sullivan. Roy Rowland, director.

• JOSEPH RUTTENBERG and GEORGE FOLSEY, "The Big Hangover," with Van Johnson, Elizabeth Taylor, Fay Holden and Selena Royale. Norman Krasna, director.

Monogram

• HARRY NEUMANN, "Lawless Code," with Jimmy Wakely, Cannonball Taylor, and Ellen Hall. Oliver Drake, director.

• HARRRY NEUMANN, "Riders In The Dusk," with Whip Wilson, Andy Clyde, and Reno Browne. Lambert Hillyer, director.

• WILLIAM SICKNER, "Wolf Hunters," with Kirby Grant, Helen Parrish, Charles Lang and Chinook. Oscar Boetticher, director.

Paramount

• CHARLES LANG, "Where Men Are Men," (Technicolor) with Bob Hope, Lucille Ball, Jack Kirkland and Eric Blore. George Marshall, director.

• GEORGE BARNES, "Let's Dance," with Betty Hutton, Fred Astaire, Roland Young and Barton MacLane. Norman McLeod, director.

• JOHN SEITZ, "Postal Inspector," later changed to "United States Mail," with Alan Ladd, Phyllis Calvert. Lewis Allen, director.

• JAMES WONG HOWE, "Eagle And The Hawk," (Technicolor) with John Payne, Rhonda Fleming, and Dennis O'Keefe. Lewis R. Foster, director.

• VICTOR MILNER, "September," (Hal Wallis Prodn, Shooting In Italy) with Joan Fontaine and Joseph Cotten. William Dieterle, director.

R.K.O.

• NICK MUSURACA, "Bed of Roses," with Joan Fontaine, Robert Ryan and Zachary Scott. Nicholas Ray, director.

• LEE GARMES, "My Foolish Heart," (Samuel Goldwyn Prod.) with Dana Andrews, Susan Hayward, Kent Smith and Lois Wheeler. Mark Robson, director.

• MILTON KRASNER, "Christmas Gift," with Robert Mitchum, Janet Leigh, Wendell Corey and Johnny Wright. Don Hartman, director.

• RUSSEL HARLAN, "Tarzan And The Slave Girl," with Lex Barker, Vanessa Brown, Robert Alda. Lee Sholem, director.

• RAY RENNAHAN, "The White Tower," (Shooting In the French Alps), with Glenn Ford, Valli, Claude Rains, Sir Cecil Hardwicke, Oscar Homolka and Lloyd Bridges. Ted Tetzlaff, director.

• EDWARD CRONJAGER, "Daybreak," (Busch Prodn.) with Teresa Wright, Lew Ayers and Jacqueline White. John Sturges, director.

• LEE GARMES, "Beloved Over All," (Sam Goldwyn Prodn) with Ann Blyth, Farley Granger, Joan Evans, Donald Cook and Jane Wyatt. David Miller, director.

• FREDDIE YOUNG, "Treasure Island," (Walt Disney Prodn.) (Shooting in England) with Bobby Driscoll, Robert Newton, Basil Sydney, and Denis O'Dea. Byron Haskin, director.

20th Century-Fox

• JACK CARDIFF, "The Black Rose," (Technicolor) (Shooting in North Africa) with Tyrone Power, Cecile Aubry, Alfonso Bedoya, and Bobby Blake.

• LEO TOVAR, "Front and Center," with Dan Dailey, Colleen Townsend, Corine Calvet and William Demarest. John Ford, director.

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Last Month	54
Year Ago	44

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• CHARLES G. CLARKE, "Two Corridors East," (Formerly titled "The Quartered City" (shooting in Berlin) with Montgomery Clift, Paul Douglas and Cornelia Bruch.

• ERNEST PALMER, "War Paint," retitled "Broken Arrow," (Technicolor) with James Stewart, Debra Paget, Joyce McKenzie. Delmar Daves, director.

• HARRY JACKSON, "A Ticket To Tomahawk," (Technicolor) with Dan Dailey, Anne Baxter, Rory Calhoun, and Walter Brennan. Richard Sale, director.

• FRED JACKMAN, JR., "The Cariboo Trail," (Nat Holt Prod.—Color—Shooting in Canada.) With Randolph Scott, Bill Williams, Victor Jory, "Gabby" Hayes, and Karin Booth. Edwin L. Marin, director.

United Artists

• HAL MOHR, "Johnny Holiday," (Alcorn Prodn.) with William Bendix, Allen Martin Stanley Clements, and Jack Hagen. Willis Goldbeck, director.

• ERNEST LASLO, "Dead On Arrival," (Cardinal Prod.) with Edmond O'Brien. Rudolph Maté, director.

• STANLEY CORTEZ, "The Whip," (Hal E. Chester Prodn.) with Dan Duryea, Gale Storm and Herbert Marshall. Cyril Endfield, director.

• PAUL IVANO, "Champagne For Caesar," (Harry Popkin Prod.) with Ronald Colman, Celeste Holm, Barbara Britton, Vincent Price and Art Linkletter. Richard Whorff, director.

Universal

• MAURY GERTSMAN, "Java," retitled "East of Java," with Shelly Winters, Macdonald Carey, Dorothy Hart and Luther Adler. H. Bruce Humberstone, director.

• RUSSELL METTY, "Buccaneer's Girl," with Yvonne DeCarlo, Robert Douglas, Andrea King, Norman Lloyd and Peggie Castle. Frederick de Cordova, director.

• IRVING GLASSBERG, "The Story of Molly," with June Havoc, Scott Brady, Dorothy Hart, Charles Drake. Crane Wilbur, director.

• WILLIAM DANIELS, "Fugitive From Terror," with Ida Lupino, Stephen McNally, Howard Duff, and Peggy Dow. Michael Gordon, director.

• MAURY GERTSMAN, "The Bowie Knife," (Technicolor) with Maureen O'Hara, Macdonald Carey, Charles Drake, George Sherman, director.

• IRVING GLASSBERG, "Frame-Up," with Scott Brady, John Russell, Peggy Dow and Dorothy Hart. William Castle, director.

Warner Brothers

• ROBERT BURKS, "Beyond The Forest," with Bette Davis, Joseph Cotten, David Brian, and Ruth Roman. King Vidor, director.

• PEVERELL MARLEY, "Perfect Strangers," with Ginger Rogers, Dennis Morgan, Margalo Gilmore, Anthony Ross and Alan Reed. Bretaigne Windust, director.

• TED MCCORD, "Young Man With A Horn," with Kirk Douglas, Lauren Becall, Doris Day, Hoagy Carmichael and Juano Hernandez. Michael Curtiz, director.

• CARL GUTHRIE, "The Cage," with Eleanor Parker, Agnes Moorhead, Jan Sterling, Gertrude Michael and Ellen Corby.

• ERNEST HALLER, "Always Leave Them Laughing," with Milton Berle, Ruth Roman, Virginia Mayo and Bert Lahr. Roy Del Ruth, director.

• WILFRED CLINE, "The Daughter Of Rosie O'Grady," (Technicolor) with June Haver, Gordon MacRae, Gene Nelson and James Barton. David Butler, director.

• SIDNEY HICKOX, "After Nightfall," with David Brian, Marjorie Reynolds, Claudia Barrett and John Archer. Peter Godfrey, director.

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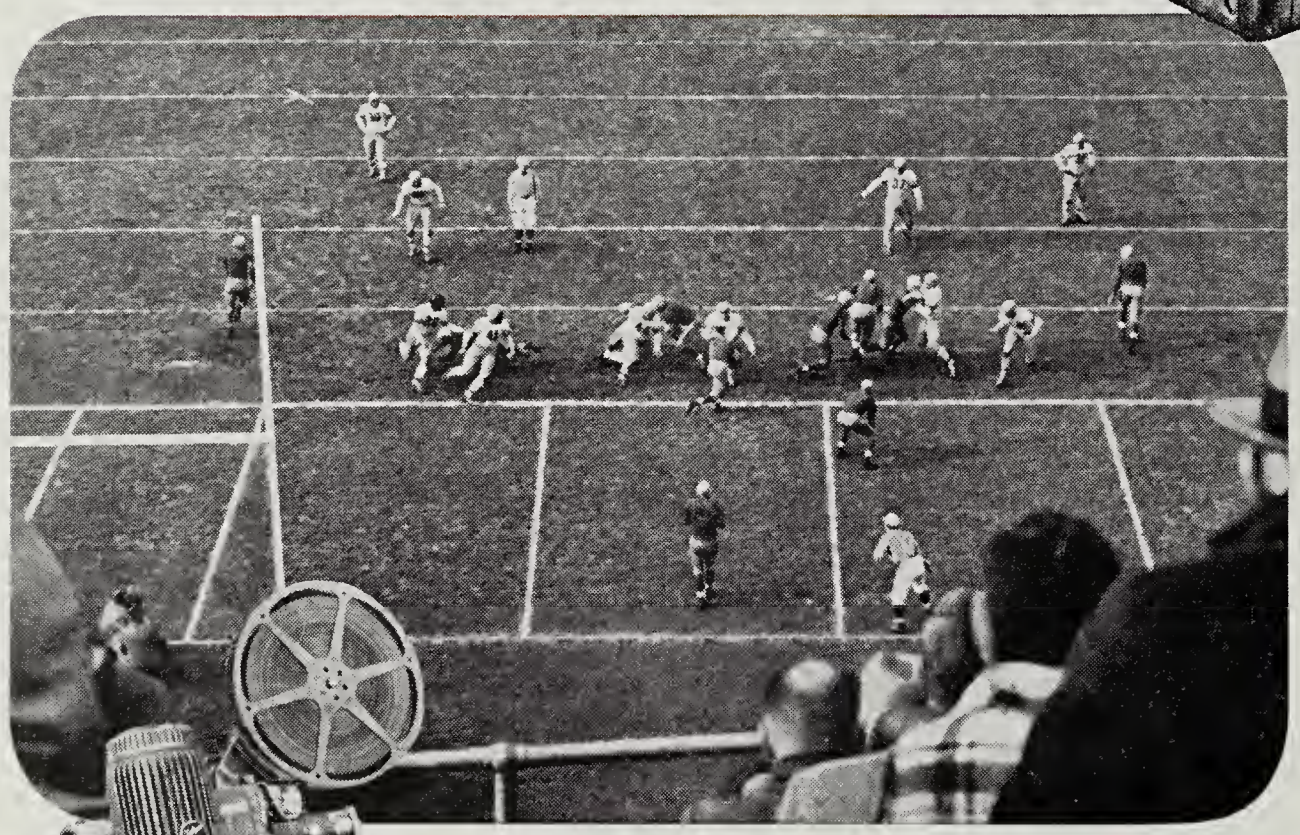
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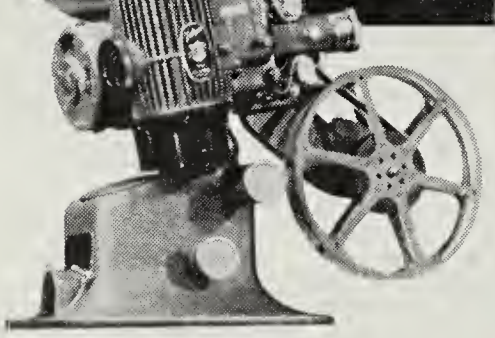
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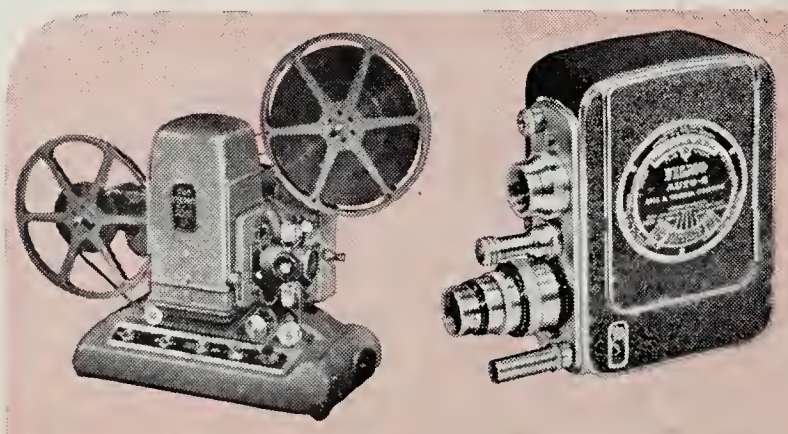
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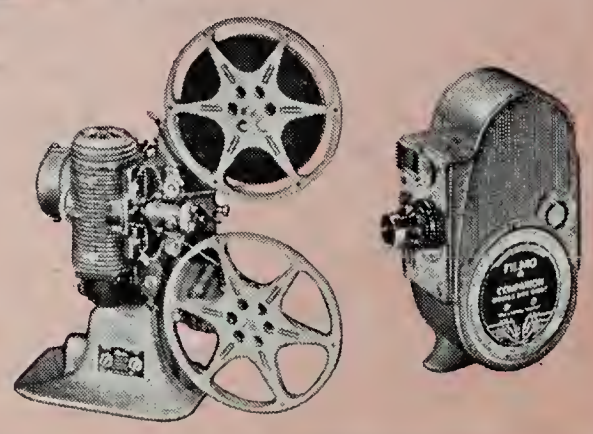


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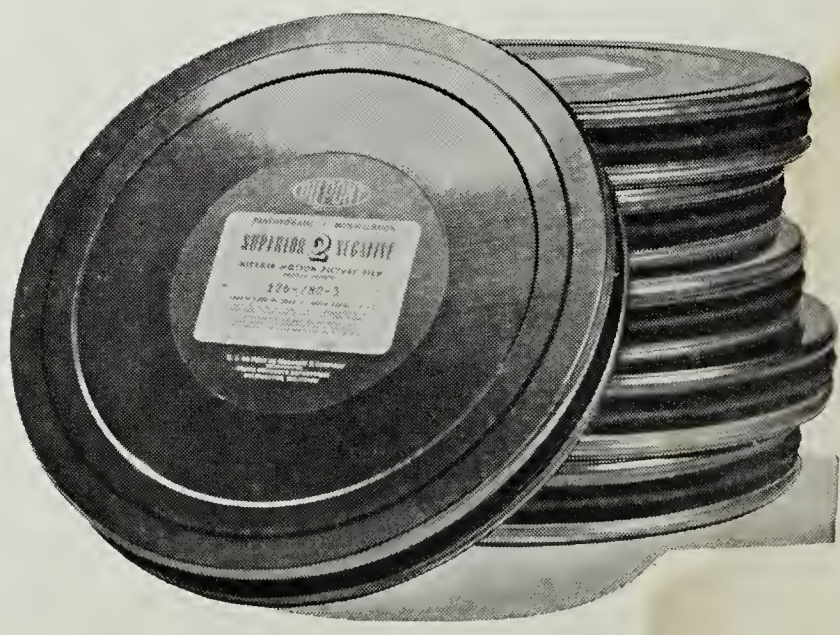


This Issue--

- **S. M. P. E. Convention Program**
- **Amateur Movie Competition**

OCTOBER
1949

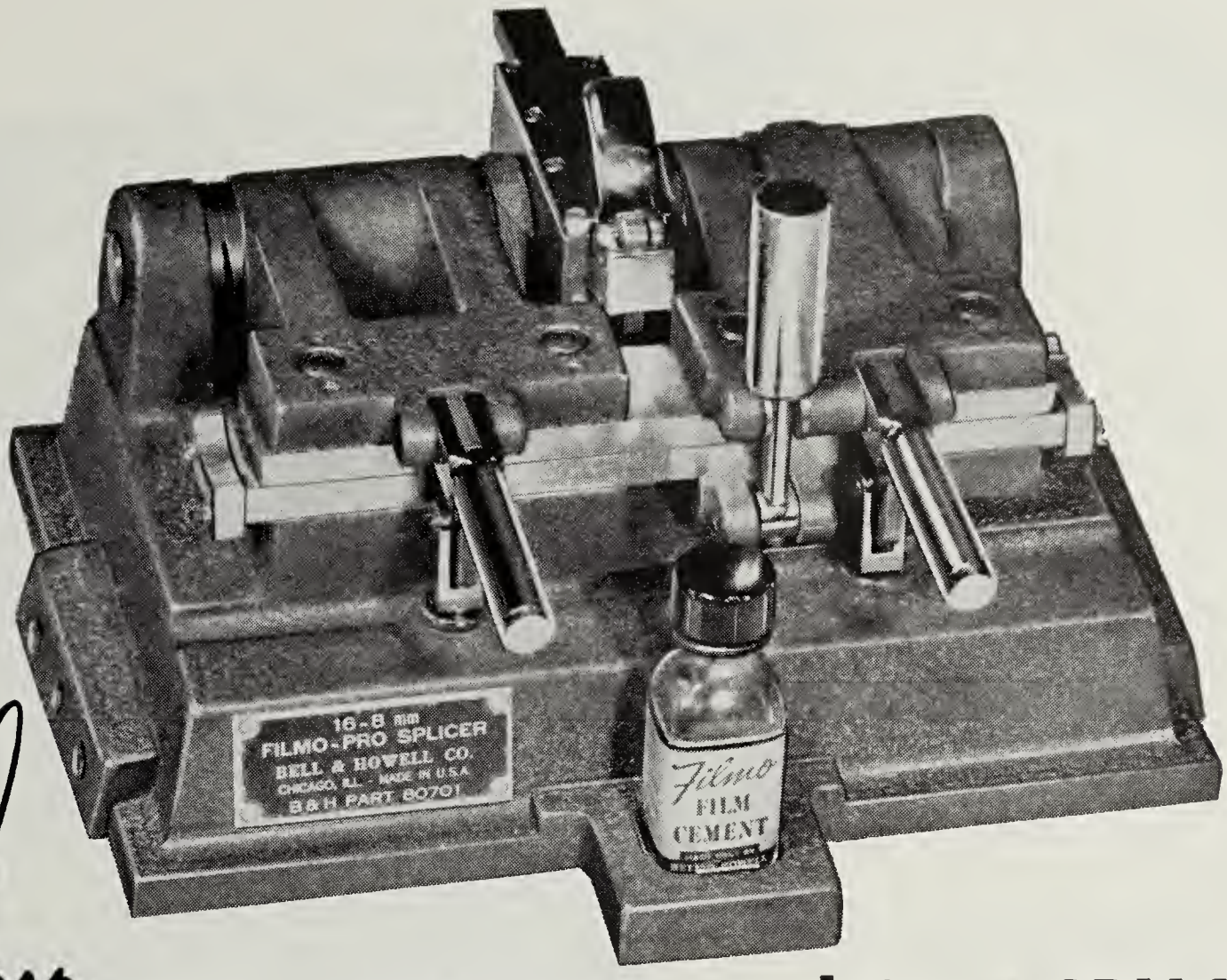
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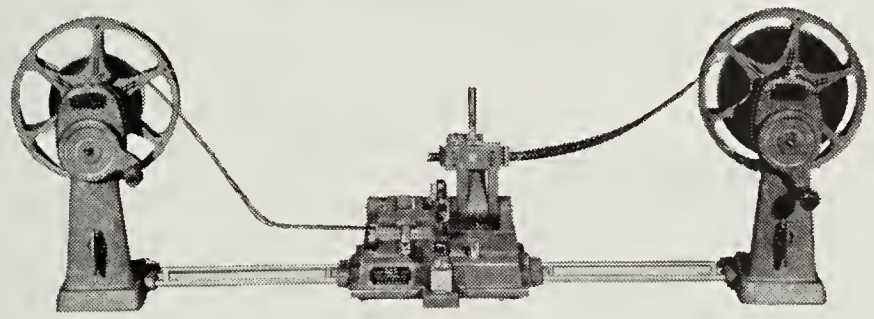
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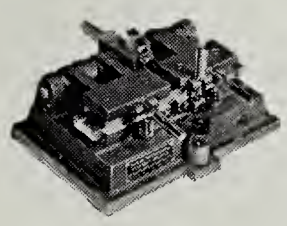
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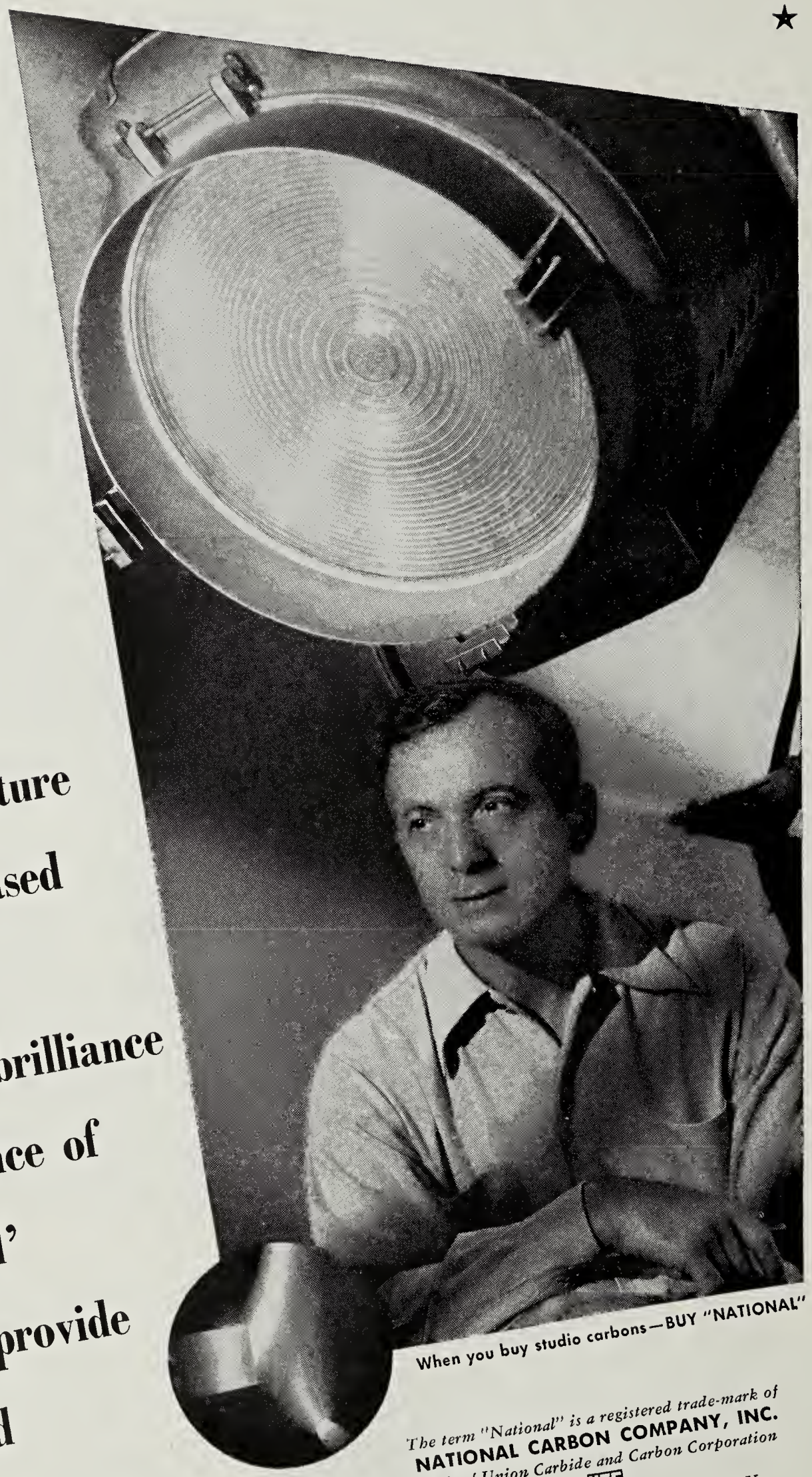
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FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

The Society meets regularly once a month at its clubhouse at 1782 North Orange Drive, in the heart of Hollywood. On November 1, 1920, the Society established its monthly publication "American Cinematographer" which it continues to sponsor and which is now circulated in 62 countries throughout the world.

Dominant aims of the Society are to bring into close confederation and cooperation all leaders in the cinematographic art and science and to strive for pre-eminence in artistic perfection and scientific knowledge of the art.

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ON THE COVER

GILBERT WARRENTON, A.S.C. (behind camera), lines up a shot for "The Human Bridge," half-hour 16mm. industrial film produced in Kodachrome by Raphael G. Wolff Studios, Hollywood, for Ford Motor Company. Scene is corner of vast Ford River Rouge Plant in Dearborn, Michigan, where Warrenton spent three months shooting scenes for the picture. The camera is a Maurer 16mm. Professional.

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1949 by A. S. C. Agency, Inc. AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.

S.M.P.E. Convenes In Hollywood October 10th to 14th

Tentative program for five-day session includes important technical papers on motion picture color processes, high-speed photography, magnetic recording and television.

MEMBERS of the Society of Motion Picture Engineers, many of whom also are members of the American Society of Cinematographers, will hold one of their most important and significant semi-annual conventions in Hollywood this month. Members from all over the U. S. will convene in the film city October 10th for a five-day session at the Hollywood Roosevelt Hotel, just a block away from the A.S.C. Clubhouse.

From the list of papers and demonstrations already set on the program of 10 technical sessions scheduled for the five-day get-together, and the large number of reservations received from distant points, the convention looms one of the greatest ever held by the Society on the West Coast.

S.M.P.E. committee chairmen include Sid Solow, A.S.C., in charge of local arrangements for convention; Watson Jones, reservations committee; Herbert Griffin, transportation; Harold Desfor, publicity; C. W. Handley, registration and information; J. P. Livadary, luncheon and banquet; Lee Jones, membership and subscriptions; Mrs. Peter Mole, ladies' reception committee; Lloyd Goldsmith, 35mm. projection, and H. W. Remerscheid, 16mm. projection.

PROGRAM

(Subject to Change)

MONDAY MORNING • OCTOBER 10

9:30 REGISTRATION, Mezzanine Floor

Advance sale of luncheon and banquet tickets. Registration for transportation to Mt. Wilson and Dinner at the Mt. Wilson Hotel on Thursday.

MONDAY NOON

12:30 Luncheon, Blossom Room

EARL I. SPONABLE, *Presiding*

GUEST SPEAKER: An eminent authority in the field of Motion Pictures.

MONDAY AFTERNOON

3:00 BUSINESS SESSION, Blossom Room
4:30 REPORT of Color Committee

MONDAY EVENING

8:00 TECHNICAL SESSION — Color, Blossom Room

Session will open with a motion picture color film.

8:10 An Experimental 35mm. Multilayer Stripping Negative

JOHN G. CAPSTAFF, *Eastman Kodak Company*

Describes a multilayer negative film for color motion pictures from which two layers are separately wet-stripped onto special transfer supports before development.

Photography in the Rocket Test Program

CARLOS H. ELMER, *U. S. Naval Ordnanee Test Station*

The bulk of the data obtained from rocket and guided missile firings is recorded photographically. This paper describes the special types of equipment used at Inyokern.

Depth Perception in Color Photography

RALPH M. EVANS, *Eastman Kodak Company*

TUESDAY MORNING • OCTOBER 11

9:30 REGISTRATION, Mezzanine Floor

Advance sale of Banquet Tickets.

Register for transportation to Mt. Wilson and dinner at Mt. Wilson Hotel.

10:00 TECHNICAL SESSION — Color, Blossom Room

Session will open with a motion picture short.

10:10 Color Cinematography in the Mines

M. CHARLES LINKO, *Mode-Art Pictures, Ine.*

The many and varied conditions under which it was necessary to photograph a series of color films in a number of assorted mines are described as are the methods used to overcome them.

Color Temperature—Its Meaning in Color Photography

ORAN E. MILLER, *Eastman Kodak Company*

This is a tutorial discussion of the color temperature concept and its application to color photography.

Current Developments in Color Film Sensitometry

FRANKLIN C. WILLIAMS, *Kodak Research Laboratories*

TUESDAY AFTERNOON

1:30 REGISTRATION and advance sale of Banquet Tickets, Academy Award Theatre Lobby

Register for transportation to Mt. Wilson and dinner at Mt. Wilson Hotel.

2:00 TECHNICAL SESSION — Color and Lighting, Academy Award Theatre

Session will open with a Motion Picture Short.

2:10 35mm. Ansco Color Theatre Prints From 16mm. Kodachrome

ADRIAN MOSSER, *Filmeffects of Hollywood and* LINWOOD DUNN, *RKO Pictures, Inc.*

Paper describes one of the successful methods of bringing the 16mm. motion picture to the 35mm. screen in color.

Cinecolor Three Color Process

ALAN M. GUNDELFINGER, *Cinecolor Corporation*

The basic chemical reactions, spectral characteristics of the dyes and types of machines utilized in the film processing are discussed in detail. The entire Cinecolor three color process is described.

A Production Type Color Scene Tester

FRANK P. HERRNFELD, *Anseo*

Effects of Incorrect Color Temperature on Motion Picture Production

FRANK F. CRANDELL, KARL FREUND AND LARS MOEN, *Photo Research Corporation*

Past efforts to systematize control of film production (and especially color) have been partially defeated by inability to detect variations of color temperature of daylight and artificial light sources. Effects of such variations on tone or color of makeup, costumes and sets are cited.

Study of Sealed Beam Lamps for Motion Picture Set Lighting

WAYNE E. BLACKBURN, *Motion Picture Researeh Counеil, Ine.*

Recent Developments on Mercury Cadmium Compact Source Photographic Lighting Equipment

H. K. BOURNE AND C. G. HEYS HALLETT, *Mole-Riehardson Ltd., London, England*

The most recent British development in compact source lighting equipment for motion picture studios are described.

Color Measurement of Carbon Arc Craters and Motion Picture Screen Light

R. E. HARRINGTON AND F. T. BOWDITCH, *National Carbon Co.*

The Stroboscope As A Light Source for Motion Pictures

ROBERT S. CARLSON, *University of Mississippi*

HAROLD E. EDGERTON, *Mass. Institute of Technology*

The Cine Flash, A New Lighting Equipment for High Speed Cine Photography and Studio Effects

H. K. BOURNE, *Mole-Riehardson Ltd., London, England; and* E. J. G. BEESON, *British Thompson Huston Com., Ltd, Rugby, England.*

A new form of portable lighting equipment is described which has been designed especially to meet the needs of the high speed cinephotographer who is always faced with the difficulty of obtaining sufficient light.

TUESDAY EVENING

8:00 TECHNICAL SESSION — Color, Academy Award Theatre

Session will open with a Motion Picture Short.

8:10 Synthetic Color-Forming Binders for Photographic Emulsions

I—Development of the binders and techniques for their Application.

W. A. STANTON, *E. I. du Pont de Nemours & Company*

Color coupling development is one means of creating a dye image in proportion to a photographic image. Several processes have previously been developed that make practical use of this principle.

II—Structure and Properties of a Release Positive Color Film. Type 275.

W. A. STANTON, *E. I. du Pont de Nemours & Company*

Du Pont Type 275 is a release positive color film designed for making three-color prints from separation negatives.

III—Exposing Type 275.

J. D. WEISS, *E. I. du Pont de Nemours & Company*

IV—Processing Type 275.

J. P. WEISS, *E. I. du Pont de Nemours & Company*

(Continued on Page 374)

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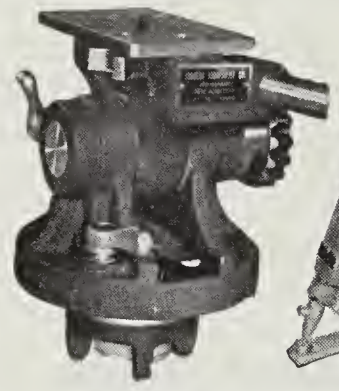
85% of the motion pictures shown in theatres throughout the world are filmed with a Mitchell

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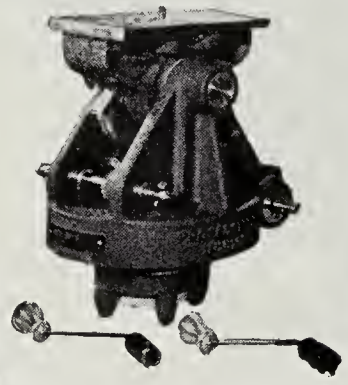
Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with motor and 400′ magazine; and all 16mm. hand-held cameras. Head is interchangeable with the Gear Drive head. Both types fit "Professional Junior" standard tripod base, "Hi-Hat" and "Baby" all-metal tripod base.





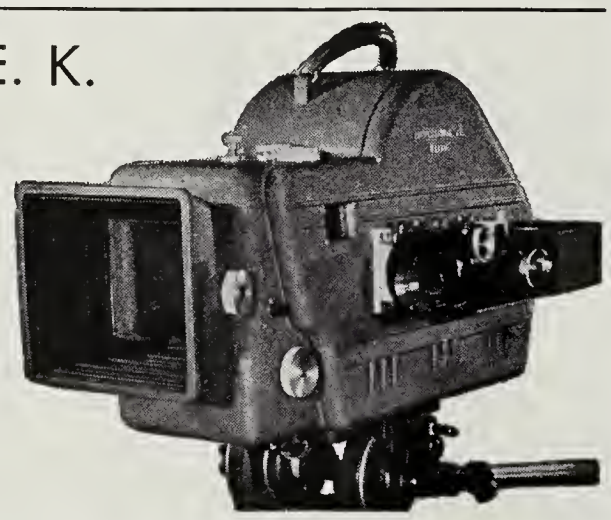
GEAR DRIVE

The head, made of Dow Metal magnesium, weighs but 5½ lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap-on metal cranks control pan and tilt action from both sides. Worm-driven gears are Gov't spec. bronze.

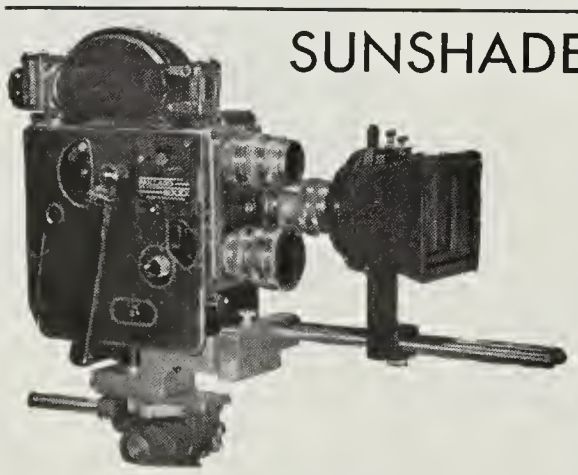


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HOLLYWOOD BULLETIN BOARD

MILTON KRASNER, A.S.C., received the International Critics' Grand Prize for motion picture photography in the 1949 Film Festival held last month in Cannes, France. Award was for his lensing of RKO-Radio's "The Set-up." Borrowed from Fox by RKO, Krasner recently completed photography on "Christmas Gift" for the same studio.

•

CLIFFORD STINE, A.S.C., once one of RKO's ace special-effects photographers, assumed his first major assignment as director of photography at Universal last month on U-I's "Outside The Wall." Previously he had done special photography and second unit work on two other Universal productions.

•

SNEAK PREVIEWED at the A.S.C. clubhouse recently was the motion picture industry's short subject, "The Cinematographer," dealing with the work of the directors of photography. In the star role as director of photography was a real director of photography — Karl Struss, A.S.C. — whose performance was in the best professional tradition. The film has been excellently conceived, produced and photographed and will do much to enlighten theatre-goers on the important role the director of photography plays in the production of motion pictures.

•

GUS PETERSON, A.S.C., has been summoned to C.B.S. to direct the lighting on the Ed Wynn television show.

•

JOSEPH WALKER, A.S.C., one of Columbia Pictures' ace cameramen, has perfected the Electra-Zoom vari-focal lens for use on television cameras. Lens is said to operate on optical principles different than the Zoomar, already in use by some TV stations. The Electra-Zoom has an aperture of f/3.1 with a focal length varying from three to eight inches. The fast speed of this lens and its small size—less than 12 inches long—makes it fully satisfactory for interior TV studio work. It is push-button controlled by the camera operator.

•

CHARLES ROSHER, A.S.C., whose photography of M-G-M's "Red Danube" is being widely acclaimed, journeyed to San Francisco last month, along with other M-G-M luminaries, to appear in

(Continued on Page 373)

The CAMERETTE

Precision 35mm. Portable Camera Answering All the Requirements Of Cameramen The World Over!



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Directly through the taking lens permitting accurate framing and focusing.

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Specially designed so that wide angle lenses (from 24mm.) can be used side by side with focal length lenses up to 500mm. without cut off.

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400 or 100 foot — interchangeable and instantly locked to the camera unit in a fraction of a second.

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Extra exposure for bad lighting conditions and slow color films. Can be closed down to 40 degrees allowing a wide range of exposure times.



Plus

EASE OF OPERATION — The extreme lightness (camera with 3 lenses, 400 foot magazine and motor weighs only 14 lbs.) and unique shape designed to fit the body makes for ease and steadiness in operation.

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JACK CARDIFF, A.S.C., checks makeup man's artistry on the classic features of Ingrid Bergman, star of "Under Capricorn." Filmed in England by Cardiff, under direction of Alfred Hitchcock, picture's U.S. debut is scheduled for October.

The Problems Of Lighting And Photographing

"UNDER CAPRICORN"

By JACK CARDIFF, A.S.C.

I SHOULD have known better. An assignment with such a zodiacal title as "Under Capricorn" should have warned me not to be too elated at face values; but when the face was Ingrid Bergman's and the director Alfred Hitchcock, I surely couldn't help hugging the Capricornus goat, dreaming cosily of big, big, close-ups of La Bergman, and devising cunning gymnastics with Hitch the Master.

Of course there was a catch—a deadly one. To illustrate: "I want a cameraman. You there, Al Splonks, A.S.C., will you come up on the stage a moment? Thank you.

"So you think you're good? Right. Here's Miss Bergman. Apotheosis of beauty: perfect bone structure, cheek bones that camber exotically, eyes that smile right through a thin negative, and the supple-firm lips of Aphrodite. Now, Mr. Splonks, she's all yours. You can paint her with lights; a big, big, close-up. At least you *start* with a big closeup; then you must track way back to a long shot of a dining room, track and pan around for a few minutes, track into a few other rooms. . . Yes, that's what I said Al, say about *five* other rooms, including a circular stairway, and you crane up this stairway into a room upstairs, back again, and down into the dining room. Yes, that's one shot, Al.

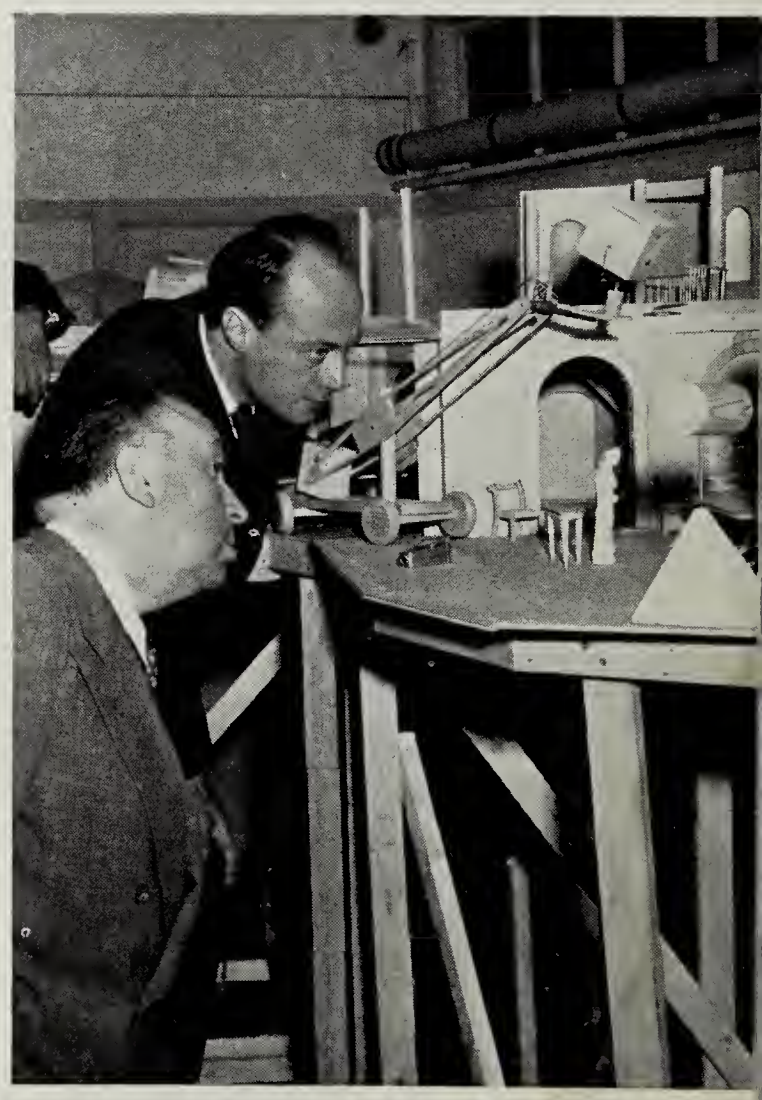
"Remember *"Rope"*? Well, this is the same technique, but with a composite six-roomed house and we move through walls that open into, sometimes, as many as six rooms in one scene.

"As you see, it calls for a 35mm. lens, so for Miss Bergman's close-up your camera must be only about 18 inches away from her face. Yes, Al, a 35mm. lens is not very good for a close-up. You want to use a 50mm.? Well, I did, too, but think of those other five sets we go into, Al; so for this one we'll have to use a 35mm. Yes, that's a Technicolor blimp—big, isn't it? And when 18 inches away from a beautiful face, there isn't much room. Why the lens shade practically touches her nose! Well, you must manage somehow; there'll be trouble if we throw away our lens shade!

"Now, all your special little lamps for close-up lighting must fly away as we track, and they have to fly really fast to beat that circuitous electric crane and the electric fly-away walls, and the ceilings that lower into place, and the table, cut into fourteen sections, which frantically jig-saws in and out of position as we surge through it — backwards and forwards! Oh, another thing, Al. Miss Bergman mustn't look *too* beautiful in the first few reels — she plays a wan dipsomaniac . . . You too, Al? Well, let's open another bottle before we start the next scene."

Now that *"Under Capricorn"* is just a memory, I can view it with a wider perspective, especially as I have just finished a movie employing the antithesis in technique; *"Black Rose"* has only *one* dolly shot in nearly 900 scenes!

We prepared *"Under Capricorn"* in the ideal theoretical manner. It started with a three-man conference: Hitch, art director Tom Morrahan, and myself. For one week we listened to Hitch out-



LARGE MODEL of composite set, complete with scale actors, furniture and even scale lights, enabled Cardiff and Hitchcock to map every camera movement in advance. Hitchcock's "long take" technique was employed throughout the picture.

line the plot, and watched his expressive hands draw every set-up in the picture on paper already prepared with frame lines. Hitch always places the positions of faces first, as he considers that framing a correct pattern of the principal faces on the screen is a most important part of dramatic structure. With a swift and confident movement he makes a simple oval for a face, with a T form to represent nose and eyes; placing the T either in the center or on one side, to represent full face, or three-quarter, and it is astonishing how concise this method of face-structure can be. Then the background is drawn in, and at the end of each sequence—or reel—the art director and myself have made copious notes effecting economy of set building and lighting arrangements. We continued our planning with a large model of our composite set, using scale actors, furniture and even scale lights. With a perfect miniature replica of our crane we mapped out every camera movement exactly, so that at least we knew what we were up against, and I hardly need say that I viewed the job ahead with as much tranquility as a premeditated fight with an octupus! Looking back on it all, I'm not so sure I wouldn't have preferred the fight with the octupus.

A normal studio floor was useless for smooth and silent dollying in any direction so, as on *"Rope,"* we had to build a special floor. But of course our area in this case was much greater for a large Georgian house and garden. First a two-inch thickness of asphalt was heated and set over the floor, then came a layer of felt, and this was in turn covered with carpet. Imagine, at austerity time in England with carpet strictly rationed, we covered our studio floor with one huge carpet, which measured 150 feet by 80 feet! Our composite set was now built on the carpet and it was really a work of art, with practically every wall and even ceilings made to move silently away at the press of a button. This floor, silent and level both outside and in, was now treated for various surface effects, i.e., aubusson carpet, marble, gravel exterior, etc.

As I mentioned earlier, we cut a large Regency table into 14 divisions, laterally and vertically, so that we could crane right through it as if it didn't exist. Each division was snatched away at the very last second as the crane surged through in hot pursuit of the actors prancing from room to room. This was a noble sight: a gang of men frantically dodging the camera in a mass like a football scrum, each with a tiny section of a table in his hands. The actors often helped and as the camera approached them seated nonchalantly enough, it looked positively weird to see them suddenly grab a section of a table, with a candle or a plate of food fixed on to it, and fall wildly out of picture into the perspiring melee with their own parts of the table clutched in their hands.

The rigging of lamps was also a headache. More than 200 lamps had to be rigged so they could be altered for various sequences. My lights were fixed up on cranes, dollys, and even on old "mike" booms, so that I could move them silently during the scene. It was a fantastic sight to see a lamp silently glide in through a window, or even through a hole in the wall, twist and tilt and pan in several directions, then just as mysteriously disappear again. I usually had several electricians running or crawling alongside my camera with 5 kw lamps strapped to their shoulders and often they had to wriggle in flat on their tummies—sometimes colliding disasterously—and having done their work wriggle out again before the monster crane mowed them down!

In a bedroom scene, we came through a window (jerked out by wires), followed Michael Wilding towards a four poster bed, on which Miss Bergman was reclining. This bed was a very strange bed: it had machinery that enabled it to tilt forward about 45 degrees, and we could thus effectively look "down" on her without going high and tilting our Titan blimp. (Miss Bergman performed a remarkable feat in acting and maintaining equipoise on a bed which performed silent see-saws!) All four posts of the bed came away during the scene and we could dolly in to enormous close-ups. I had sliding panels cut in some walls to admit lights which disappeared as the camera faced on them. I had men with lamps strapped to them, hiding behind doors: after the camera had passed through, they would then creep away. At one time, I had six sets lighted at once. This meant dashing from set to set, checking up till the last moment, and we finished up with three gaffers instead of the usual one. Everyone knows we have a labor problem in England. I leave it to the imagination of the reader when I say that out of the hundred odd electricians, many had been engaged without studio experience—some had never seen a studio before—and those had to work

(Continued on Page 382)



LIGHTS were rigged so they could be altered for various sequences. Lamps were fixed on camera crane, dollys, and even on old mike booms, so they could be moved silently during the long takes.



FILL LIGHT on most closeups was furnished by a special diadem of photofloods which Cardiff had rigged on his Technicolor camera, around the matte box. Photofloods proved valuable lighting source.



FILMING NIGHT EFFECTS in daylight is chief use of infra-red film in motion picture studios today. In Universal-International's "Sword In The Desert," for example, four-fifths of its footage consists of night scenes — most of them photographed in daylight with infra-red.



SWORD IN THE DESERT — Irving Glassberg, A.S.C. (right), who directed the photography on this picture, made extensive hand tests with infra-red to insure consistency of exposures. Dana Andrews (left) and producer Bob Buckner examine one of the test strips.

They Do It With Infra-red!

It's easier, more economical to shoot night scenes in broad daylight using infra-red film.

By LEIGH ALLEN

THE FILM INDUSTRY suddenly is taking sharp notice of a new brand of motion pictures being turned out by Universal-International's Hollywood studios. These new films differ from the familiar run-of-the-mill movie fare in two respects: the stories are factual and refreshingly new and the photography is startlingly different; the result: movies that are clicking like everything at boxoffices everywhere. And that's good.

Probably the real "secret" behind it all is that studio's "discovery" of infra-red film. The film isn't new, by any means, but its successful use by Universal gives it new luster. Months ago the studio's production manager, Jim Pratt, chanced to see a film produced by another studio in which night scenes photographed with infra-red film played a dominant part. Pratt saw how shooting night scenes in broad daylight with I-R film, without need for costly lighting equipment that night shooting entails, added up to considerable savings. Besides, action

(Continued on Page 376)



JOHNNY STOOL PIGEON — For this U-I production, Maury Gertzman, A.S.C. (behind camera), shoots a night scene in bright sunlight, using infra-red film in the camera and a 29-F filter over the lens.



ILLEGAL ENTRY — For this U-I production, based on experiences of U.S. Immigration Officials, much of the action takes place at night. William Daniels, A.S.C., who filmed it, shot night sequences at four large California air fields in broad daylight, using infra-red film.

The Magic Of Montage

Correctly used, montage approaches pure cinema, visually advancing the dramatic story without calling attention to the mechanical effects involved.

By HERB A. LIGHTMAN

In the French motion picture industry, the word montage refers to the cutting or editing process, that operation in which each scene is actually "mounted" in its proper setting and relationship to the other scenes.

In American studios, however, the term montage has taken on quite a different meaning. It refers to a series of separate scenes rapidly cut, dissolved, or superimposed to convey a single unified impression. A purely cinematic device, it is capable of great versatility in production, and each Hollywood studio usually maintains its own montage department to create such sequences for the screen.

The most obvious use of the montage pattern is to condense a lengthy stretch of time or action into a small amount of footage, without slighting the meaning of the transition itself. For example, a man might be shown boarding a train in a certain locale, after which, in fragmentary scenes, we see various shots of him in different attitudes intermingled with scenes showing an ocean liner gliding along, an airplane flying through the sky, and the man finally landing at a far-removed locale. Thus, in the shortest possible space of time, our hero has taken a long and diversified trip — a journey complicated enough, in fact, to require the use of three different types of transportation. With the montage method, we can take him from one locale to another quickly and easily without minimizing the scope of his migration.

Similarly conceived is the type of montage used merely to show the passage of time, a pattern which has become almost a *cliché* of film technique. Such a montage usually involves shots of progressive plot action interspersed with scenes of leaves falling from a calendar, newspaper headlines, zooming dates, or other similar time-passage symbols.

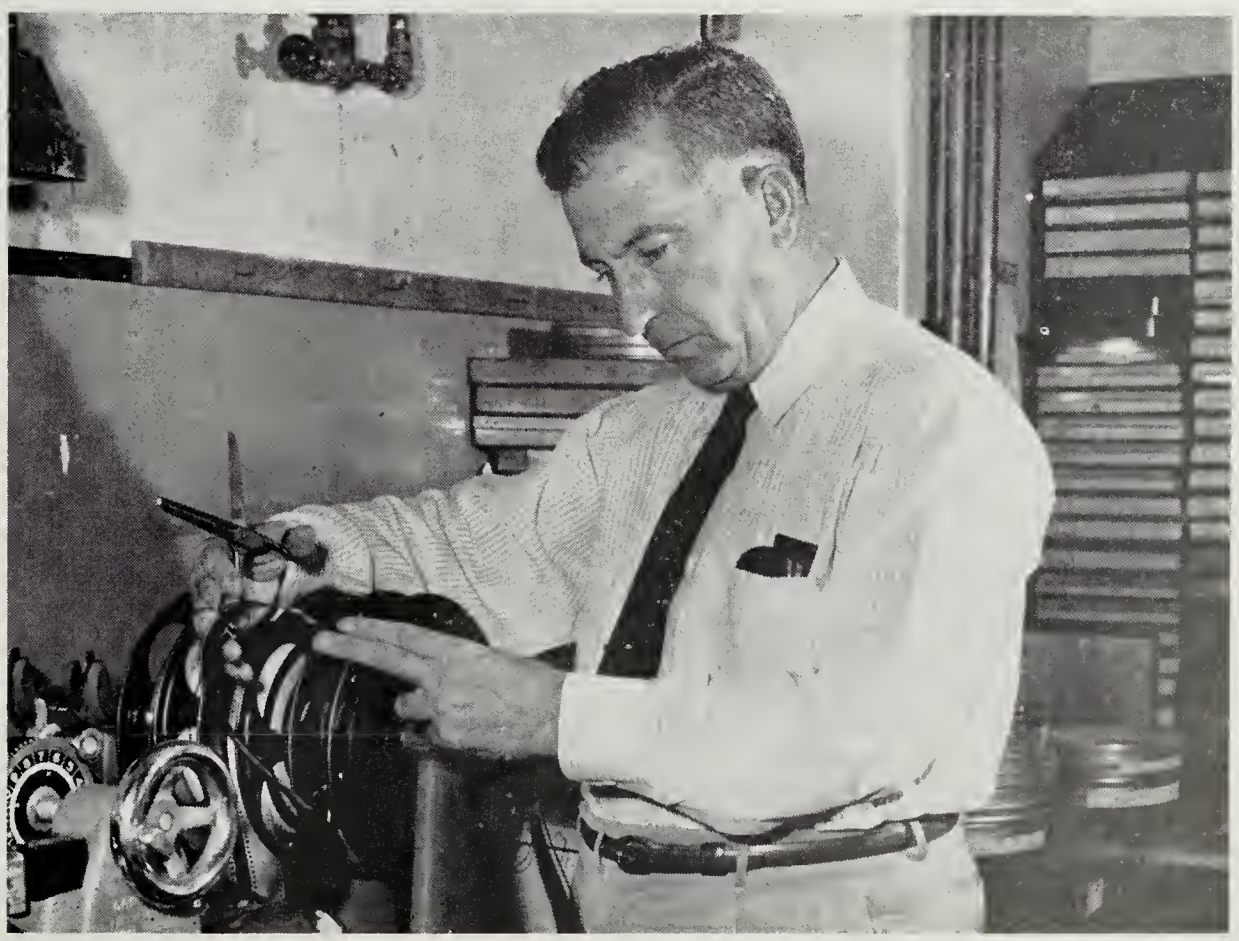
The above examples indicate the two most obvious uses of the montage pattern. Applied in broader scope, however, montage can summarize an entire historical epoch, a lengthy technical process, or a specific phase of a person's life. It can add up to a full and detailed impression without consuming an undue amount of footage.

But the potentiality of the montage goes far beyond the mere utilitarian expedient of condensing time or action. In itself, properly used, it is a potent dramatic device peculiarly suited to the scope of the cinematic medium. It is capable of conveying to the audience certain subtleties of mood and characterization which could not be as aptly portrayed in any other way. Used subjectively, for example, it can present a situation as it appears to a specific character in the story. This impression may be colored by the character's peculiar point of view or by his emotional outlook at that point in the plot. In a sense, the camera "crawls inside the mind" of the character, and shows a situation not as it actually exists but as it appears from a frankly biased point of view. A child's world, for example, could be neatly projected by a montage of low camera angles simulating the viewpoint of the child as he constantly looks up at elements of the world around him.

In a film based on a psychological theme, montage is quite often used to portray the confused or abnormal state of mind of one of the characters. A monumental example of this technique was the beautifully conceived montage which appeared several years ago in the film "Blues In The Night." In this film, an almost surrealistic pattern of distorted shots of musical symbols forcefully portrayed the nervous breakdown of the main character, a musician. More recently, in such films as "The Lost Weekend," and "The Snake Pit," similar montages were used to interpret the hallucinations of the protagonists. In the latter film especially, a most effective montage utilized shots of ocean waves and breakers to symbolize an emotional crack-up. Fortunately, the director of the film resisted the natural impulse to carry such a montage to exaggerated lengths.

Quite often, montage is used with telling effect to produce a stylized impression of a normal sequence of events. A classic example is the brilliantly conceived cut montage used in the recent film, "Champion," to sum up the train-

(Continued on Page 381)



CREATION of a montage is a highly specialized process, involving special photography and skilled cutting in the editing stage. Montage experts first work out the visual pattern and proceed in the editing process to assemble the various scenes according to plan. Here, Roscoe Dale, film editor at Columbia Studios, ponders a cut in a sequence for "The Good Humor Man" soon to be released.



TO INSURE uniform results from image orthicon tubes, when more than one camera is used on a TV show, cameramen now may use this Video Analyzer to check each tube's color response, sensitivity and alignment, thus fit their cameras with tubes of insured uniformity.

Balancing Television Camera Tubes

New TV tube analyzer insures matched image orthicons for multi-camera television shows.

By RALPH LAWTON

GOOD TELEVISION images are born in the TV studio. They must start as well-illuminated subjects and then must progress through the lenses, the cameras, the electrical circuits, and the antenna system with a minimum of distortion. All along the video line, image resolution, definition, contrast, and brilliance must be maintained. Frequency distortion, electrical interference and amplifier noise should be minimized.

Most important link in the TV chain is the camera with its image orthicon. Its job is to transform faithfully the lights, the darks, and the grays into accurate signal-pulses. It it fails to do its job faithfully, no amount of monitoring and circuit juggling further along the line can replace what the camera has lost. Perfect camera adjustment and alignment are the first major ingredients of top image quality.

Until now, because of the lack of adequate test equipment, TV cameramen and technicians have been unable to get the most out of their camera pick-up equipment. It has been impossible to match image orthicons accurately and to align and adjust cameras properly. The result: poor image quality regardless of lighting, staging and direction.

Unfortunately, the image orthicons available to TV stations are far from being uniform—they vary greatly in their response or sensitivity to light intensity and color. However, unless pick-up tubes whose characteristics match are used in the cameras on a multiple-camera show, the quality and brilliance of the image will change every time a switch is made from one camera to another.

Many TV cameramen and technicians boast an uncanny ability to adjust their cameras for maximum results purely by feel. Perhaps some few, through long experience, are endowed with a sort of special "video sixth sense," but even they admit that they could do a more consistent job if they had some sort of testing device that would enable them to make an accurate and dependable step-by-step check-up of their camera tubes.

It appears that Dr. Frank G. Back, who developed the Zoomar lens for television, has come up with the very answer to their problem with his recently announced Video Analyzer. This gadget consists of a lightweight metal housing having a telescoping barrel that fits directly on the TV camera's 90mm. lens. Within this housing is an incandescent low-Kelvin rating light source, a specially designed precision transparent test pattern, and a calibrated correction lens. A "bubble level" on the top of the analyzer's housing makes it easy to adjust the built-in test pattern for perfect horizontal alignment.

The analyzer may be connected to any 110-volt source, including the utility outlet on the camera. The test pattern is illuminated by pressing the spring-tension hand switch. To eliminate any possibility of burning the test pattern into the target of the pick-up tube, the switch is never held closed for more than a few seconds at a time. Some image orthicons burn easily and some do not. The new bismuth tube (5826 and 5829) has much less tendency to burn in than the antimony surface tubes (5655 and 5769).

According to Dr. Back, the Video Analyzer provides the first accurate and complete means for:

1. Classifying an image orthicon tube according to its color sensitivity, light sensitivity, saturation point, and contrast range.

2. Accurately aligning and adjusting a TV camera.

3. Matching and balancing two or more camera chains to be used on the same TV show.

The Video Analyzer now makes it possible to calibrate each tube and provide it with a special code number that indicates at a glance its color characteristics, light sensitivity, saturation point (or peak level of illumination it will accommodate), and its contrast range.

By using the old haphazard method of balancing and adjusting cameras by focusing them on a large paper target

(Continued on Page 384)

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of new concepts
and purposes
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TO

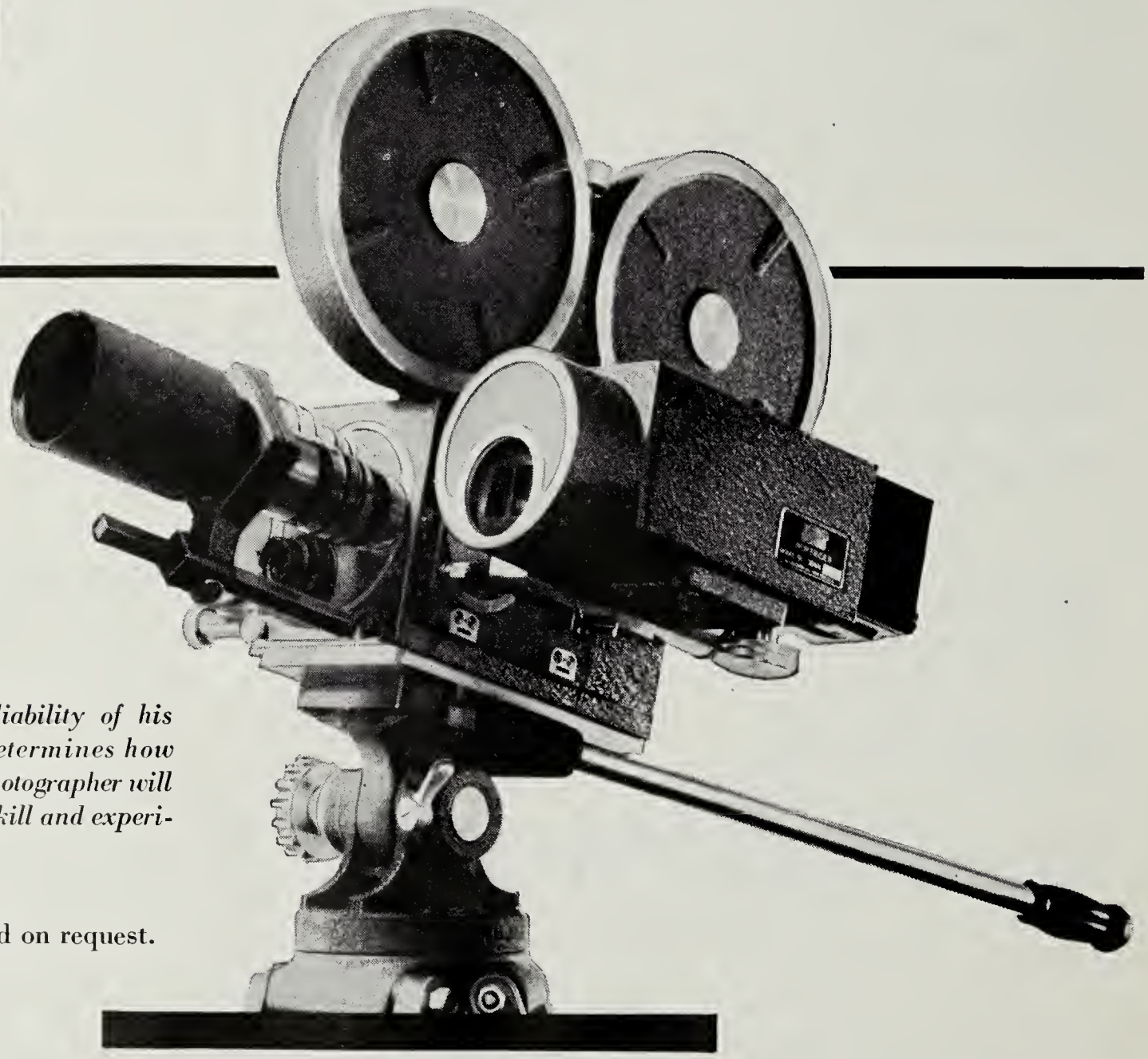
65° below

For three years the new Maurer 16-mm Professional Motion Picture Camera has been thoroughly work-proven under all kinds of conditions.

Operated under maximum temperatures and high humidity on tropical expeditions, it has given the same uniformity of performance as in studio shooting.

And it has met exacting tests and functioned perfectly in every respect at −65° F, producing the same fine results as when operated at normal temperatures.

It offers the photographer an unrivaled assurance of consistently high picture quality under any climatic condition.



The accuracy and reliability of his camera equipment determines how fully the experienced photographer will be able to transfer his skill and experience to film.

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16mm maurer

16-mm Professional Production Equipment



TYPICAL of America's serious amateur movie makers is Gordon R. Ray (left), who, with his associates, Clifford Tierney, Jr., Eunice Brown and others, recently filmed a compelling 16mm. picture based on expressive modern dance techniques. Above Brown is shown lining up a symbolic shot for picture.

Not All Artists Paint!

Many find self-expression in writing, acting and especially in photography. Your cine camera, thoughtfully used, can be the pleasurable means for expressing your creative talents, too.

By ARTHUR EDESON, A.S.C.
Vice President, American Society of Cinematographers

GIVEN a ciné camera, a great many people, young and old, succeed in finding expression for their creative talents, which they would be unable to do with paint brush or pen. Those who never could paint a canvas or pen a story find it easy to create entertaining pictures with light and shadow, using camera and film. The resultant artistic work, instead of hanging in art galleries or appearing on "best seller" lists, is acclaimed in local and national amateur movie competitions.

Many owners of ciné cameras have yet to discover the outlet for their hidden talents their cameras afford. Admittedly, a great many of these cine cameraists are snapshooters—always will be—and have no desire to make any other kind of pictures. But it happens, with uncommon frequency, that one of their lot suddenly gets inspiration, perhaps while watching his own movies on the screen, and with renewed enthusiasm sets out to make a picture that has real substance.

It is said that almost everybody has hidden creative talent, needing only inspiration to bring it to fruition. Behind department store counters, pumping gas in service stations, penning dull figures in bookkeeping ledgers, in fact in all walks of life are men and women capable

(Continued on Page 370)



TYPICAL amateur movie gadgeteer's equipment enabled Clyde Prusman to photograph microscopic movies that attracted attention of national educational film producer. Note how old automobile jack was converted into elevator for camera stand, and how odd bits of pipe, tubing, etc., were converted into lamphouse for the miscroscope.

His Better Mousetrap Was A Homemade Movie

How amateur movie maker Clyde Prusman's unusual biological movies led to a filming assignment for Coronet Films.

By ADELINE RICE

WHILE Cyde A. Prusman was making his movie "Life Through a Microscope," he did not think of Emerson's statement that if you build a better mousetrap, the world will beat a path to your door. Mr. Prusman was a supervising engineer with Commonwealth Edison of Chicago, and photography was his hobby. Biology was another of his interests, amounting to a hobby, so it was only natural that he should combine the two in a biological movie.

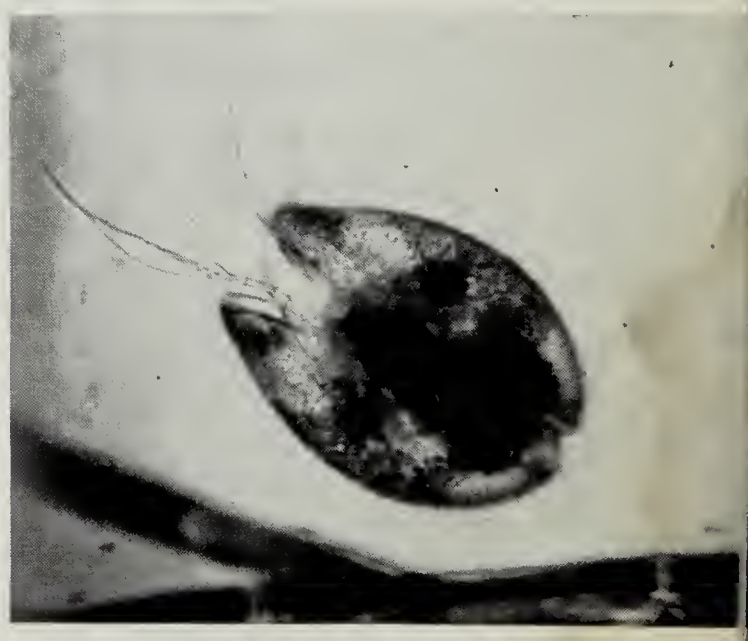
He was fascinated by the world which he viewed through a microscope, finding it as full of hazards and adventure as that of human beings traveling on a holiday. He cited the process by which the sluggish Amoeba surrounds and renders helpless, and ultimately digests, its more lively victims. But it is not easy to photograph subjects which are not static and are sensitive to light, which cannot take direction, and which must be photographed through the microscope lens from an area 1/100 of an inch or less in diameter.

"For this sort of photography one needs a device for viewing the image," he said. "Two questions must always be in mind: Is life present? Will it move out of the field too quickly? There are several viewfinders on the market, but the amateur who is ingenious and likes to tinker can make his own."

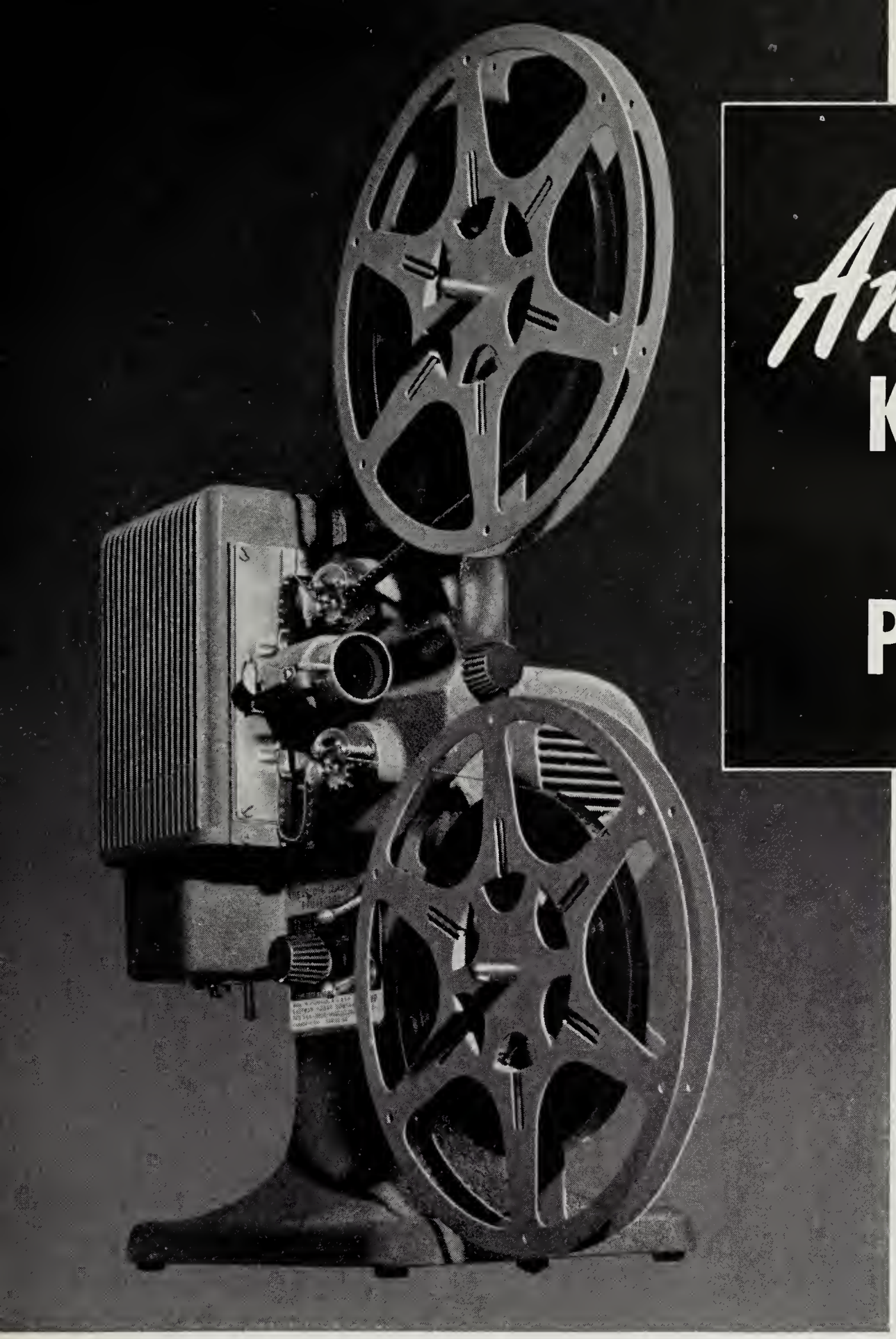
He began his experiments about 1942, working with an old 16mm. camera and a standard microscope, with black and white film. "I used, and still use, the ordinary achromatic microscope lens," he said. "In movie work one tends to use only the center of the field, and I find the achromatic lens quite satisfactory."

One evening in the summer of 1945 he showed his experimental film, "Life Through a Microscope," at a meeting of amateur movie clubs in Chicago at which some six or seven hundred people were present. Among these was a representative of Coronet Films, which features educational pictures. In October of that year Mr. Prusman retired and moved to California. He and his wife were not really settled in their new home near Los Gatos when he received a letter from Coronet Films asking if he would be interested in making a color film for them similar to his "Life Through a Microscope" but according to their spec-

(Continued on Page 379)



AN OSTRACOD, a crustacean common in pond water everywhere, photographed through a microscope by Clyde Prusman, is typical of subjects brought to the movie screen in his unusual 16mm. color film, "Life In A Drop Of Water."



Announcing...

KODASCOPE *Eight-71* PROJECTOR

UNSURPASSED SCREEN BRILLIANCE— WHEN IT'S NEEDED . . . FAST, PRECISE f/1.6 LUMENIZED LENS . . . 400-FOOT FILM CAPACITY . . . COOL, QUIET OPERATION. IT'S THE BUY OF THE 8MM. FIELD AT ONLY $97.50.

"EIGHT-71's" superb, completely *Lumenized* optical system, featuring the Kodak Ektanon 1-inch *f*/1.6 Projection Lens, teams with a powerful 750-watt standard lamp to provide abundant illumination for average use. But whenever you need it—for *big* 8mm. screenings in spacious rooms—*super*-brilliance is at your finger tips. Just touch an ejector to free the standard lamp . . . replace it with a 1000-watt accessory lamp . . . and Kodascope Eight-71 Projector provides unsurpassed 8mm. screen brilliance!

Other features, too—400-foot film capacity for 30 minutes of uninterrupted movies. Easy-action controls handily centered on a panel at the side of the machine. Motor rheostat that lets you adjust film flow. Cast-in handle for convenient carrying. Friction-free safety shutter, moulded-rubber interior drive, and an easy-running, air-cooled motor for *quiet*, comfortable operation.

There's every assurance for long projector life . . . every safeguard for your film. Unique baffling in the condenser and aperture systems cuts out nonuseful light to eliminate excess heat at the film gate. An efficient fan and air-circulating system keep the whole machine cool even after hours of operation. And there's an air-operated safety shutter that cuts in automatically when film flow is adjusted below the safety point.

Trimly handsome . . . of rugged, die-cast aluminum construction . . . thoroughly competent on every count, *this* projector sets new standards of 8mm. value. Plan to see the "Eight-71" Projector soon—at your Kodak dealer's.

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Here is a package strikingly different . . . a lens package never before offered. This new Animar lens package is a rigid, molded plastic container. The lens screws into a threaded base. Your lens is held rigid, no knocking around in the case. With a quarter turn the clear plastic top fastens securely over the lens. No dents on edge of sun shade . . . no flattening of screw threads . . . no scratching of lens surfaces. Animar lenses are completely protected, yet readily available, in this new long-lasting protective container.

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For many years, the world's leading cameramen of Hollywood have preferred Bausch & Lomb Baltar lenses . . . use them to film Hollywood's finest movies. All the experienced lens design and manufacturing know-how, accumulated by Bausch & Lomb in producing lenses for professional motion-picture cameramen, have gone into the development of the new Animar series of lenses. Now *your* movies can have crisp, sparkling, brilliant images with Bausch & Lomb Animar lenses . . . movies filmed in their full magnificence of fine detail, subtle tone and brilliant color. *Equip your camera now.*

If your dealer does not have the Bausch & Lomb Animar Lenses . . . *write us direct!*

"For professional quality in Your movies"

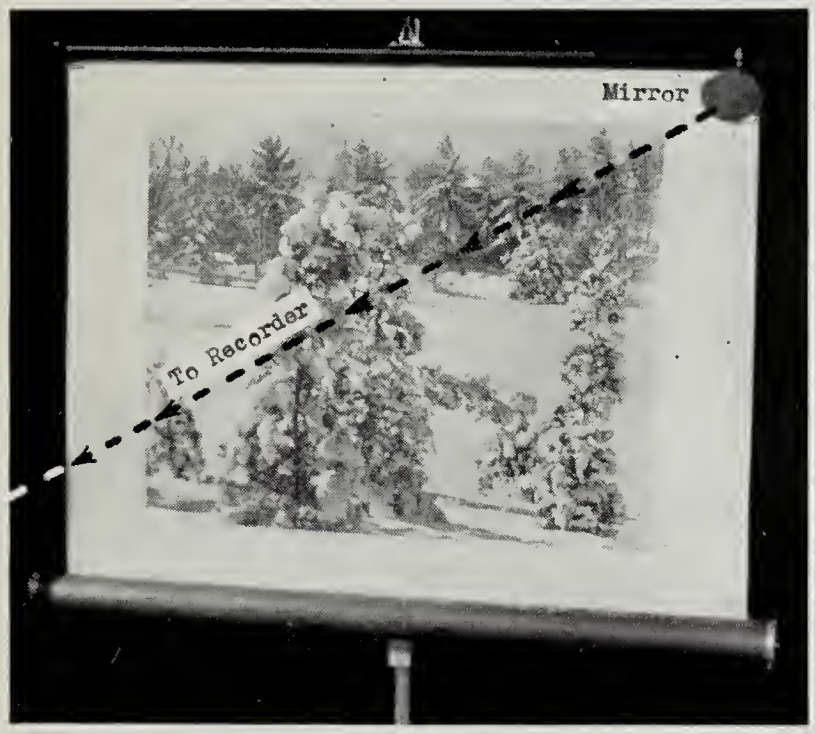
FREE FOLDER!

Get your FREE copy of this new folder on Bausch & Lomb Animar Lenses from your local dealer . . . or write Bausch & Lomb Optical Co., 545-J Smith Street, Rochester 2, N.Y.

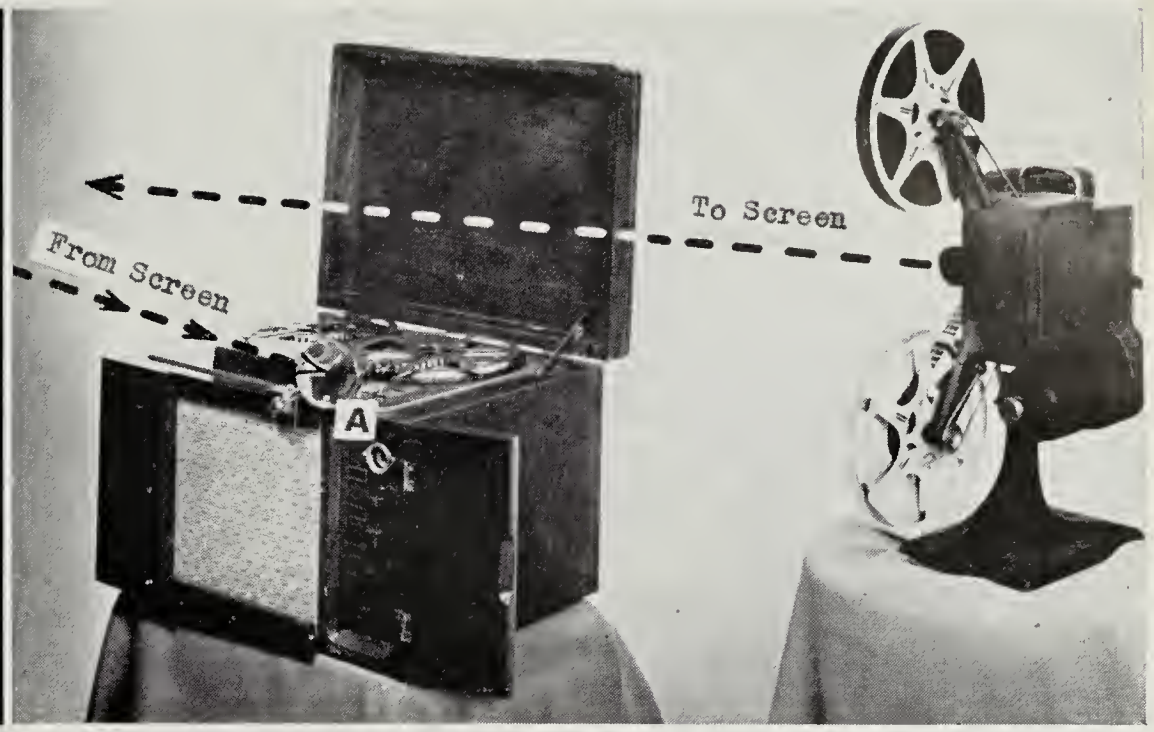
BAUSCH & LOMB

8mm and 16mm

B&L ANIMAR LENSES



INTERMITTENT light for illuminating stroboscope side of the Tiger Tape is provided by reflection from the screen, either from the screen surface itself or by addition of small mirror which directs a beam of light to recorder.



TIGER TAPE'S strobo feature is effective when projector operates at 16 f.p.s. The imperceptible "blinks" of light from projector, between opening and closing of its shutter, are directed from the screen and condensed through the lens (A) onto the striped tape moving in the recorder. Syncing is effected by controlling projector.

Tiger Tape

Striped magnetic tape provides stroboscope synchronization of sound for home movies.

By PAUL E. KING
Brush Development Company

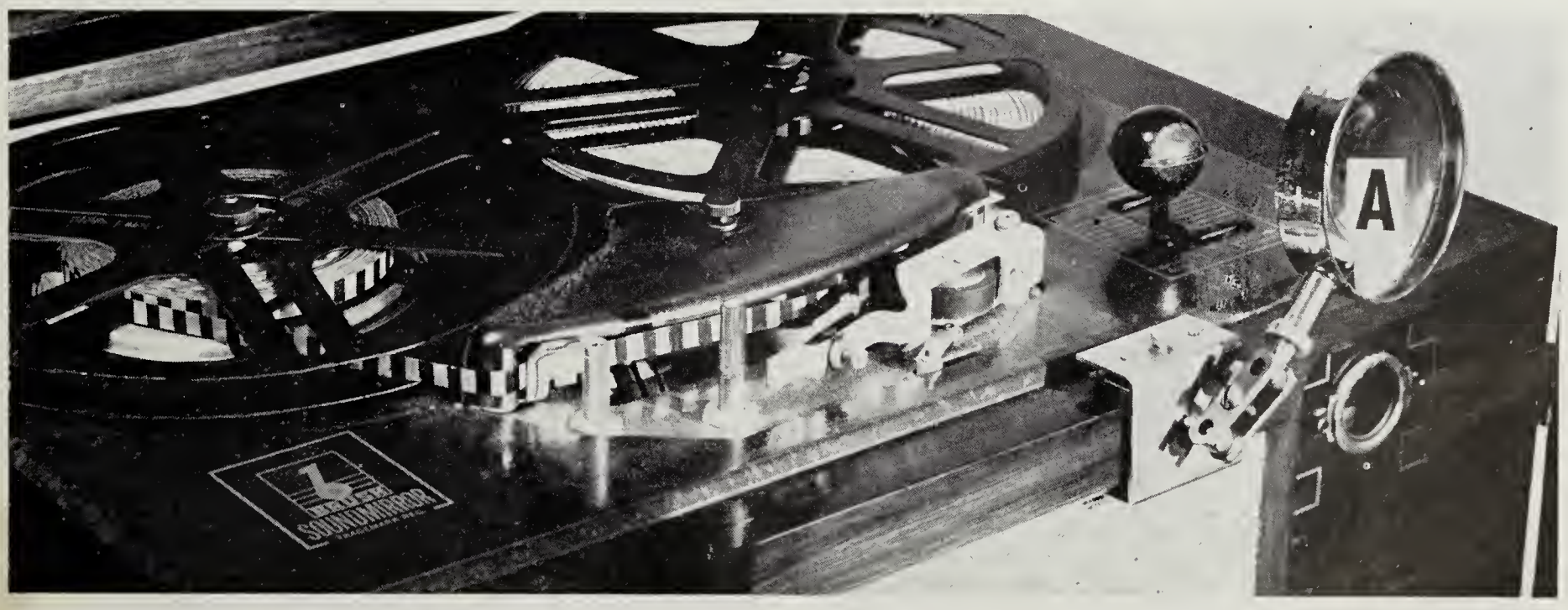
AMATEURS in every field have both paved the path for the professional and borrowed methods from him, and home movie makers are no exception. The ensuing discussion does not presume the status of Hollywood technique but instead is intended as an economical and reliable approach to providing a method of sound accompaniment to your home or educational movies.

One can divide, according to the technical difficulties encountered, the problem of sound accompaniment into two groups: first, that of a running commentary or narration, as in the typical travelogue; and second, strict "word to lip" synchronization as, for example, in "close-ups" of persons talking, as in a play. Most amateurs will likely be content with the first classification. However, with diligence and with the proper cueing, the scheme to be described can be satisfactorily controlled to meet the needs of "word to lip" synchronization.

Basically the method makes use of: 1. The currently popular tape recorder; 2. A magnetic recording tape (Tiger-Tape), the back side of which is printed with alternate dark and light blocks of equal and specific spacing; and 3. A simple condensing lens.

Utilizing the three aforementioned items, the reflected light from the screen is condensed through the lens onto the striped tape moving in the recorder. If the tape velocity is such that at each

(Continued on Page 378)



OPERATOR achieves synchronization of projector and recorder by watching area of tape illuminated by the concentrated beam of light falling on it through the lens (A). When segments on tape appear to stand still, both machines are in sync, and projector speed is adjusted accordingly.

MORE USABLE LIGHT
WITH LESS CURRENT
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APPROVED BY
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LABORATORIES



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$12.95
COMPLETE WITH
BULBS & CARRY-PAK, $18.87

IDEAL FOR COLOR MOVIES
At last! The ideal light for color—full front illumination for brilliant pictures that LIVE!



WITH THE NEW GE BULBS
Amazing new 40° bulbs concentrate THREE TIMES more light in the picture area.

NO MORE BLOWN FUSES!
Although three times brighter, the new bulb used exclusively with Powelite draws 25% less current than the old bulbs—a saving of 500 watts in the "senior" unit.

THE *RIGHT* LIGHT *FAST* WITH
THE BUILT-IN-DIMMER
Flick the switch to "dim" for composition, then flick it again to "bright" for full illumination *on* the subject. No more wasted time, tangled cords, or pictures that you "almost got."





YOU CAN'T LOSE THE ACTION
No matter how rapid the movement, POWELITE is *always* on the subject. A vital advantage in photographing children, pets and playtime activities. Powelite mounts on any tripod, is light for easy hand holding.

COMPLETE WITH "CARRY-PAK"
The handiest container ever designed for the photographer—at no extra cost. Holds the POWELITE and bulbs safely. Comfortable handle for easy carrying. Ideal for storing POWELITE when not in use.



ALSO IDEAL FOR "STILLS"
Plenty of light for snapshots with any still camera. Perfect front lighting for color.



POWELITE "JUNIOR"
$6.95
Complete with bulbs and carry-pak—$9.90.
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NOT ALL ARTISTS PAINT!

(Continued from Page 365)

of rendering a standout stage performance, a brilliant canvas or a "best seller" novel—once they are struck by that lightning bolt we call "inspiration."

Inspiration comes pretty easy to many who own a movie camera. We see it in the simplest home movie of the family's "pride and joy" photographed, edited and titled with loving care, so that it appears on the screen an interesting pictorial narrative; or in interesting movie accounts of vacation outings; and—from among the more serious movie amateurs—complete photoplaylets with a luster approaching that of a Hollywood major production.

Today, most serious amateur movie efforts are to be seen on the screens of amateur movie clubs. Here the serious, imaginative filmer has opportunity to show his films before kindred hobbyists, where he benefits by their criticism and helpful advice.

Amateur movie makers who have not yet succeeded in "finding themselves," who have not yet been touched by the magic wand of inspiration, often ask: "Where can I get ideas for serious films?" or "I'd like to make a really serious picture, but I just can't get started."

Mostly it's a case of not being able to see the forest for the trees. Good ideas for amateur movies abound everywhere—in your own city or town, yes, even in your own back yard—even in your living room. Whether you live in California or Alabama, New York or Tacoma, you'll find inspiration for entertaining movies if you'll *look* for it. Of course, you must first understand the structure of a narrative or story-telling movie before you'll ever succeed in making one: it results in the knack of shooting a picture that has a logical beginning and an end, with cleverly interwoven continuity and a climactic highpoint.

To tell a story pictorially with your movie camera—to hold the interest of your audience—there must be an interesting and entertaining story to tell. Your film must clearly introduce the subject at the beginning, then describe it fully as it unfolds on the screen. And when the end title finally brings the picture to a close, it should leave in your audience's mind the satisfying feeling that it has been genuinely entertained.

Perhaps you are one who laments the fact you do not live in Hollywood where, as one amateur puts it, "so many interesting things are always happening," or you have never had opportunity to visit one of the scenically wonderous National Parks, such as Yellowstone or Yosemite—or, as one amateur disconsolately stated his plight: "Nothing ever happens here to shoot movies of!"

Do you live in or near Salt Lake City, for instance? Did you know there is a little-heard-of wild game preserve on a rock island in the midst of the Great Salt Lake just begging for some imaginative amateur to come with camera and Kodachrome and film one of the most interesting documentaries of bird life yet made?

Do you live within motoring distance

AMATEUR MOVIE CLUB MEMBERS!
AMATEUR MOVIE CLUB SECRETARIES!

CLIP THIS coupon and give to the directors of your club with request that they fill it out and mail at once for entry blanks for American Cinematographer's 1950 Amateur Motion Picture Competition, announced elsewhere in this issue.

EDITOR,
American Cinematographer,
1782 NO. ORANGE DRIVE,
HOLLYWOOD 28, CALIF.

Gentlemen: Please send us our allotment of entry blanks and complete details for American Cinematographer's 1950 Amateur Motion Picture Competition. Same should be mailed to:

M _____

Title _____

Name of Club _____

Mailing Address _____

City _____ Zone ____ State _____

COMPETITION LIMITED TO CLUBS WITHIN THE CONTINENTAL UNITED STATES

The American Cinematographer

Invites All Amateur Movie Makers

To Participate In Its 1950

NATIONAL AMATEUR MOTION PICTURE COMPETITION

for the

AMERICAN CINEMATOGRAPHER AWARD

AND SIX ACHIEVEMENT AWARDS FOR CINE PHOTOGRAPHY

Closing Date for Entries . . . MARCH 1, 1950

Winners will be Announced MARCH 15, 1950

Competition open to members of amateur movie clubs within the United States. Non-movie-club-members may also compete by submitting films to their local movie club for entry. (See rules.)

Judges will be leading directors of photography of Hollywood's motion picture studios. Names will be announced next month.

RULES

- Competition open to members of amateur movie clubs within the U.S. Clubs will evaluate and enter the best 8mm. and best 16mm. film completed by a member since January 1, 1948. Individuals (non-club-members) may also compete by submitting films to their local amateur movie club for entry at discretion of the club. (Refer to your local camera store for name and address of local club, or write the Editor.)

- Amateur movie clubs may enter films not to exceed 4, as follows:

  Best 8 mm. member-made film.
  Best 16mm. member-made film.
  Best 8mm. non-member film.
  Best 16mm. non-member film.

- Film length limits: 16mm.—800 feet. 8mm.—400 feet.
- Entry Fee: $1.00 for each subject submitted.
- Each entry must be wholly amateur produced, except for any titles and film laboratory work. Any sound accompaniment must be recorded exclusively by the entrant or club submitting the film.
- Each film reel as well as its container must be plainly and securely labeled with owner's name and address **plus** name and address of club entering the film.
- All films must be shipped on reels and in cans to contest headquarters fully prepaid. Entry blank and fee should be mailed in advance of film. Films will be returned directly to owner via Express collect, fully insured. **Be sure** to indicate value on your entry blank for which films are to be insured.
- Please indicate make and model of camera and the lenses used in making your picture, also brand of film used. This information will have no bearing on evaluation of films, but is desired by judges for reference.
- Do not submit any films before **January 1, 1950.** Send only your entry blank which may be obtained by writing The Editor, American Cinematographer, 1782 No. Orange Drive, Hollywood, Calif.

Club Secretaries: *Write today for your club's allotment* (4) *of entry blanks, indicating your club's desire to participate.*

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Designers and manufacturers of silent and sound motion picture cameras with 225° shutter opening, (288° shutter opening for television use), gyro tripods and precision instruments. Complete engineering and machine shop facilities for experimental work, model and production runs.

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- Edge Numbered Work Prints
- Sound Recording
- Duplicate Negatives
- Synchronized Studio Photography
- Release Prints— Color and B&W

GEO. W. COLBURN LABORATORY, Inc.
164 N. Wacker Dr., Dept. A . Chicago 6, Ill.

of southern plantation country? There you will find a most interesting activity to record—a novel hunting practice followed by natives there called "tapstick hunting." In a tapstick hunt, a brigade of tenant farmers and their sons hunt wild rabbits in the tall brush in the fall of the year, using as a weapon a slender stick weighted at one end with a tap or heavy iron nut. Tossed at a fleeing rabbit, flushed out by the hunter's dogs, one of the sticks invariably hits its mark, producing rabbit for the family's dinner. Because of the interesting and unusual nature of this activity, plus the colorful country in which it is staged, with autumn colors painting the backdrops, it begs the attention of imaginative 8mm. or 16mm. cameraists to document it for screen entertainment.

Want to make colorful "postcard pictures that move?" Motor to Lee's Ferry, on the Colorado River, and take your ciné camera aboard the air-driven flatboat "Tseh-Na-ni-ah-go Afin'" that fights the great Colorado for 65 miles, finally bringing you to an unusual and colorful view of famed Rainbow Bridge. You'll have color galore, breathtaking scenery—and if you've a flair for continuity, you'll devise a thread of narrative to interweave with your shots—for a picture certain to take top prize in your local movie club contest.

Closer to home—if you'll look sharply —you'll invariably find such lens-beckoning activities as fly-casting and fishing contests; skating and skiing competitions in the winter; swimming and diving meets in the summer; and boy scout's activities—all excellent movie fare anytime. Don't think that because you live in a small town in some of the more isolated areas of America that "nothing happens here to shoot movies of!" An employee of a copper mining company living in Ajo, Arizona, has made several top-notch photoplaylets, using his 8mm. camera and Kodachrome and staging the action in the colorful highlands of Arizona, only a few hours drive away. His college-going son and associates comprised the cast of these films, most of which have received awards in national competitions.

Another amateur movie maker, owner of a small citrus grove in Southern California, found time between chores of spraying, tilling and pruning his citrus trees to make two prize-winning films of insects — one about a parasite that attacks orange and lemon trees, and the other depicting the life cycle of the silk worm. Filmed outdoors among the trees in his grove, this movie amateur was aided only by a set of extension tubes which he had made up especially for his Filmo 70-DA camera.

These are but a few of the thousands of serious picture making opportunities that await the exploring amateur or have already been chronicled by some within continental U. S. The minutes of movie clubs the nation over have recorded hundreds of such instances of thoughtful movie making by men and women ciné enthusiasts in all walks of life, who have taken up ciné filming as a means of self-expression. American Cinematographer Magazine's National Amateur Motion Picture Competition, announced last month, will bring to national attention many more, for this annual event is the one great opportunity for serious ciné amateurs to display their talents and their work before one of the most discerning albeit sympathetic panels of judges, men who know and appreciate good movie making — the professional cinematographers of Hollywood.

If you are a member of a ciné club, see that your club takes part in this important competition this year. Have your club secretary mail the request form on page 370, which will enable the editor to send your club its quota of entry blanks. If you have an important film completed since January 1, 1948, even though it has never been in competition or received an award, arrange to have it evaluated by your club for possible entry in American Cinematographer's competition which closes March 1, 1950,

If you do not belong to a ciné club, you may still participate by submitting your film for appraisal to your local movie club. If it qualifies as "best" among films submitted by non-members, it may be submitted to the American Cinematographer as one of that club's non-member entries. Only one 8mm. and one 16mm. non-member film may be submitted by any one club, along with a single 8mm. and a single 16mm. member-made film.

If you have not a film to enter, you still have time to make one. First look around for an idea, then go out and shoot it—thoughtfully, with continuity and good photography ever the dominant factors.

While most successful amateur movies are made with pre-planned shooting instructions as a guide, it isn't entirely necessary to have an elaborately prepared scenario or shooting script. While scripts are vital to successful production of sound films in Hollywood today, I can remember when they weren't considered so in the days of silent pictures. For instance, Douglas Fairbanks, Sr., whose cameraman I was for many years, produced some of his most successful pictures with nothing more than a few "cuff notes" and hastily drawn sketches as a guide. Doug improvised and made up much of the action as he went along. Many imaginative movie amateurs can do the same and come up with successful pictures, too. **END.**

BULLETIN BOARD

(*Continued from Page* 356)

the special stage presentation preceding the world premiere showing of the picture there.

•

FLOYD CROSBY, A.S.C., is photographing a new series of short subjects for television being produced by Rudolph Polk and directed by Irving Reis, who directed "Roseanna McCoy" for Goldwyn.

•

WHEN VIC MILNER, JR., took his cameraman dad for an auto tour of Germany recently and inadvertently crossed into verboten Russian territory, resulting in their being taken into custody, he unwittingly created publicity for Victor Milner, Sr., A.S.C., that could not be equalled had Victor, Sr., won an Academy Award. Their Russian capture and subsequent release a few days later was front page news on the nation's dailies for three days!

•

LLOYD AHERN, A.S.C., has had his contract renewed for another year at 20th Century-Fox. He recently completed "Turned Up Toes" there.

KINEVOX

Welcomes the S.M.P.E. Convention to Hollywood and Invites All Members to Daily Demonstrations of the

KINEVOX Magnetic Synchronous Recorder

Sound ▶ Academy Standards

Magnetic ▶ 17½mm. Film [slit 35mm.]

Portable ▶ Single Unit, Weight 50 lbs.

Economical ▶ 1250^{00} F.O.B. Burbank, Calif.

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SYNCHRONOUS MAGNETIC

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S. M. P. E. CONVENTION PROGRAM

(Continued from Page 354)

V—Sound Tracks for Type 275.

J. P. WEISS, *E. I. du Pont de Nemours & Company*

VI—Demonstration.

A. B. JENNINGS, *E. I. du Pont de Nemours & Company*

WEDNESDAY MORNING • OCTOBER 12

9:30 REGISTRATION—Mezzanine Floor

Advance sale of Banquet tickets.

10:00 TECHNICAL SESSION—High Speed Photography Symposium, Aviation Room

Session will open with a picture by DR. MYRON PRINZMETAL on high speed motion pictures of the heart.

A Physical Optic Analysis of Image Quality in Schlieren Photography

H. JEROME SHAFER, *Princeton University*

Schlieren Photographic Processes

NORMAN BARNES, *General Electric Co.*

Recording Cameras

JAMES BEATTY, *Hollywood, California*

Kerr-Cell Techniques in Ultra-High Speed Photography

A. M. ZAREM, *Stanford Research Institute*

Ultra-High-Speed Oscillography

C. BERKLEY AND H. P. MANSBERG, *Allen B. DuMont Laboratories*

WEDNESDAY AFTERNOON

2:00 TECHNICAL SESSION—High Speed Photography Symposium (cont'd.), Aviation Room

High Speed and Time Lapse Photography

HENRY LESTER, *New York*

High Speed Photography Committee Report

New View Finder for Fastax Camera

ALFRED LIDFELDT, *Wollensak Optical Co., Rochester*

Report on Industrial Survey Made by High Speed Committee

KENNETH SHAFTON, *S. W. Research Institute, San Antonio, Texas*

A New Camera for Photographing Human Cavities

ARTHUR NEYHART, *Los Angeles*

Medical Photography With the Intraflex Camera

DR. B. M. CULLEY, *Los Angeles*

Measuring Shock With High-Speed Motion Pictures

J. T. MULLER, *Bell Telephone Laboratories, Inc.*

Improvements in High-Speed Motion Pictures by Multiple-Aperture Focal-Plane Scanners

FORDYCE E. TUTTLE, *Eastman Kodak Company*

DISCUSSION PERIOD.

WEDNESDAY EVENING

7:15 COCKTAIL HOUR, Redwood Room

8:30 66th SEMI-ANNUAL BANQUET, Blossom Room

EARL I. SPONABLE, *Presiding*

THURSDAY MORNING • OCTOBER 13

2:00 TECHNICAL SESSION—High Speed Photography Symposium (cont'd.), Aviation Room

High Speed Motion Picture Photography, Navy Department

Symposium (Cont'd.), Aviation Room

Motion Pictures in the Guided Missile Programs

HENRY M. COBB, *Ballistic Research Laboratories, Aberdeen Proving Ground, Md.*

The Bowen Acceleration Camera

E. E. GREEN AND T. J. OBST, *U.S. Naval Ordnance Test Station*

Report of Lighting Sub-Committee

DISCUSSION PERIOD.

THURSDAY AFTERNOON

Joint session with Society of Television Engineers.

1:30 FIELD TRIP to Mount Wilson. See Note.

Inspection of Television Transmitters and 100 inch telescope. Hosts for this trip will be members of the Society of Television Engineers and DR. IRA S. BOWEN, Director of Mt. Wilson and Palomar Observatories, and staff.

5:00 Dinner at Mount Wilson Hotel. See Note.

7:30 TECHNICAL SESSION

Television, Carnegie Assembly Hall, Mt. Wilson Observatory.

The Uniqueness of Television in the Los Angeles Area

FREDERICK C. WOLCOTT, *Gilfillan Brothers, Inc.*

8:00 Recent Developments in a Television Pick-up Camera

VLADIMIR ZWORYKIN, *Guest Speaker*

NOTE: If transportation for this trip is required, it will be necessary to so notify the transportation committee. Further, the local arrangements committee must be informed by those members who intend to have dinner at the Mount Wilson Hotel.

FRIDAY MORNING • OCTOBER 14

10:00 TECHNICAL SESSION — Television, Blossom Room

Session will open with a motion picture film on video recording.

10:15 Theatre Television Committee Report
Perception of Television Random Noise

PIERRE MERTZ, *Bell Telephone Laboratories*

The perception of random noise in television has been clarified by studying its analogy to graininess in photography.

Theatre Television Transmission and Projection System by the Eidophor Method

E. LABIN, *Federal Telecommunication Laboratories*

A Rooter for Video Signals

B. M. OLIVER, *Bell Telephone Laboratories, Inc.*

This paper describes a device which takes the n-th root of the instantaneous amplitude of a video signal. Its intended use is to improve the picture quality in a television system using linear camera tubes and conventional cathode ray viewing tubes.

A new F/1.5 Lens for Professional 16mm. Projectors

W. E. SCHADE, *Eastman Kodak Co.*

To meet the growing demand for improved high-aperture 16mm. projection lenses, the Eastman Kodak Company has announced a new series of f/1.5 lenses primarily intended for professional projectors.

Noise Considerations in Sound Recording Transmission Systems

F. L. HOPPER, *Western Electric Co.*

Noise limitations of sound recording media are well known. With improved media such as magnetic materials, noise limitations imposed by the recording transmission system require consideration.

FRIDAY AFTERNOON

2:00 TECHNICAL SESSION — Sound Recording, Academy Award Theatre

SMPE Television Test Film.

2:10 Magnetic Recording Committee Report
Film Dimensions Committee Report

Sprocketless Synchronous Magnetic Tape

RICHARD H. RANGER, *Rangertone, Inc.*

Supplementary Magnetic Facilities for Photographic Sound Systems

G. R. CRANE, J. G. FRAYNE, E. W. TEMPLIN, *Western Electric Co.*

To facilitate the introduction of magnetic recording on 35mm. film, modifications have been engineered for adapting photographic recording and reproducing systems so that

they may be used alternatively for either photographic or magnetic recording.

The Altec Miniature Condenser Microphone

JOHN K. HILLIARD, *Altec Lansing Corporation*

This paper describes operation and use of a miniature condenser microphone 0.6 inches in diameter.

Increased Noise Reduction in Sound Film Recording Through the Use of Delay Networks

J. R. WHITNEY AND J. W. THATCHER, *Sound Services, Inc.*

This paper describes a new method of obtaining increased signal to noise ratio in optical sound film recording.

Improved Volume Range With Variable Density Recording

RALPH A. DUPY, *Metro-Goldwyn-Mayer Studios*

A new variable density release system to produce the same level as variable area provides the basis for a large reduction in distortion and noise.

Simplification of Motion Picture Processing Methods

C. E. IVES AND C. J. KUNZ, *Kodak Research Laboratories*

The chemical bath formulas and treating methods used in present day continuous motion picture processing machines were adopted without essential modification from the earlier manually operated rack and tank process.

The design of equipment to suit the needs of these processing methods is described with reference to the conditions which are met in television work, in the motion picture laboratory and in the eld.

FRIDAY EVENING

8:00 TECHNICAL SESSION — Motion Picture Production, Blossom Room

Session will open with a motion picture short.

8:10 A Reflex 35mm. Magazine Motion Picture Camera

BENJAMIN BERG, *Establissements Cinematographiques Eclair*

Illuminating Large Drive-In Theatre Screens

C. N. BATSEL AND H. J. BENHAM, *RCA Victor Division*

Some of the limitations and handicaps in connection with illuminating large drive-in theatre screens are discussed.

New 13.6mm. Hitex Super High Intensity Carbon

R. M. BUSHONG AND W. W. LOZIER, *National Carbon Company*

A new carbon, called the "Hitex" Super has been developed to give more light on the projection screen from condenser-type lamps used in many outdoor and large indoor theatres.

A Study of the Influence of Rate of Recirculation on Processing Solution Compositions

JOHN G. STOTT, *Du-Art Film Laboratories, Inc.*

A brief theoretical study is made of the effect of rate of recirculation on developer and fixing bath compositions in continuously replenished and recirculated film processing systems.

Designing Engine-Generator Equipment for Motion Picture Locations

M. A. HANKINS AND PETER MOLE, *Mole-Richardson Company*

Sensitometric Investigations of Background Process Photography

HERBERT MEYER, *Motion Picture Research Council, Inc.*

The composite negative obtained by photographing action against a rear projected background plate is a combination of an original negative with a dupe negative. An analysis by sensitometric methods of the gradational distortions thereby introduced has been attempted, the results of which are discussed in this paper.

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F4 Dallmeyer Telephoto for Mitchell mount	110.00
F2.5 Cooke Kinic bbl	55.00
F3 Meyer Trioplan bbl	35.00
F2.9 Ilex Seminat bbl	35.00

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6" F3.5 Dallmeyer Cinematograph Akeley standard mount	80.00
6" F3.5 Ilex Seminat for Mitchell mount	65.00
6½" F4.5 Zeiss Tessar C mount	75.00
21cm F3.5 Zeiss Tessar in Mitchell mount	110.00
8" F2.9 Ross bbl	45.00
9" F6.3 Ross Telephoto, bbl Eymo C mount	135.00
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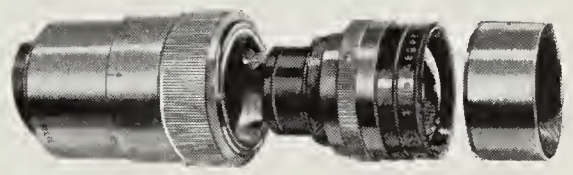
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Exploded View — Showing Typical Delta Custom FOCUSING MOUNT

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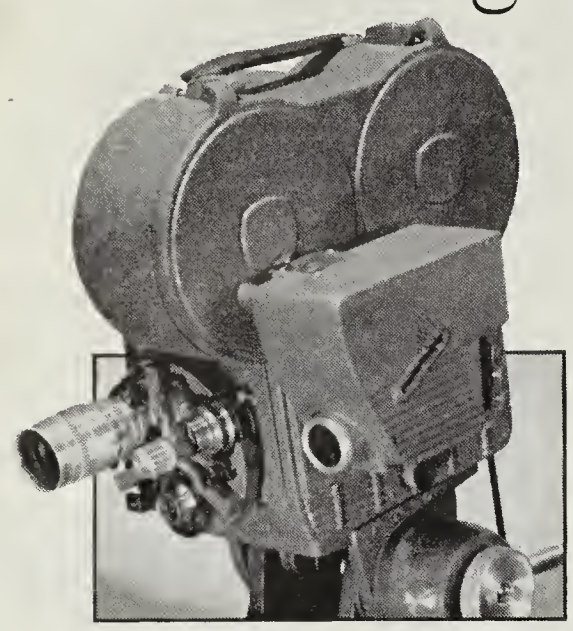
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THEY DO IT WITH INFRA-RED!

(Continued from Page 360)

played in the low key lighting of night time seemed to have terrific appeal on the screen.

What followed is that Universal has turned out five films — one after another, almost — during the past eight months, in which night scenes played before cameras loaded with I-R film constituted the crux of the action. These five films are: "Take One False Step," filmed by Frank Planer, A.S.C., "Illegal Entry," filmed by William Daniels, A. S.C., "Sword In The Desert," filmed by Irving Glassberg, A.S.C., "Johnny Stool Pigeon," with Maury Gertzman, A.S.C., behind the camera, and "Abandoned," also photographed by Daniels. On all these pictures, Stanley Horsley, A.S.C., Universal's director of special and process photography, also contributed camera work in which infra-red film was used. Today, Universal-International is probably the only motion picture studio using I-R film on such large scale.

The most extensive use of infra-red film ever noted in a motion picture was employed in the making of "Illegal Entry" and the most significant steps ever taken in development of infra-red were recorded. Weeks of tests preceded shooting of the picture by Daniels and resulted in night sequences being filmed at four large Southern California air fields in broad daylight.

Bud Westmore, director of make-up for Universal, perfected a new infra-red make-up for "Illegal Entry" after more than a year of experimentation. The new make-up need not be changed for photographing players on normal film after they have been shot on I-R film, hence an added savings of time and money is achieved. Methods were found by Westmore to cover up "five o'clock shadow" on faces of the actors. He covered actor's beard's with a coating of rouge and then applied regular brown infra-red makeup. Rouge, on infra-red film, turns the beard white, and the brown make-up then brings out the desired skin coloring.

"Sword In The Desert" is unique in that four-fifths of its footage consists of night scenes. This fact resulted in experimentation never before recorded in the handling of infra-red film in achieving night effects, by director of photography Irving Glassberg. Before he started shooting the picture, Glassberg spent a whole day at the beach with his camera photographing some of the cast in costume. Here he made many important discoveries in the use of I-R film. One was that many colors that appear normal and consistent to the eye, appear differently to the discerning and unusually sensitive emulsion of infra-red film. Of camera tests on seven blue serge uniforms, five photographed gray, two white and one black!

"Sword In The Desert" is the story of homeless Jewish refugees attempting to find refuge in Palestine. Dramatic action in the opening sequence takes place at dusk and, later, at dawn, and this called for a special kind of night effect —one that demanded a special kind of daylight for infra-red film, which Glassberg and the company fortunately encountered on the invariably fog-bound locale at Monterey, California. Where clear blue skies and bright sunlight are normally required for producing the illusion of true night scenes with I-R film, scenes ostensibly staged at dusk require that the sky be murky or grey, Glassberg said. Oddly enough, I-R film is compatible with this kind of daylight in producing a very realistic dawn or dusk effect, where shadows are entirely absent.

According to Glassberg, the limited latitude of infra-red is comparable to that of Kodachrome; in fact, he says, he shot infra-red the same as he does Kodachrome — at approximately f/8 on overcast days with no sun.

Closeups of faces are something that just can't be filmed satisfactory with infra-red, said Glassberg. The results are "too mushy," he says. So whenever he had closeups to make, he used plus-X film and a series of filters which enabled him to obtain results matching the infra-red film perfectly. The filters, he says, "mush out" the details which otherwise would be rendered sharp and contrasty. His formula for this is to use a 23-A and an X-1 filter in combination in back of the lens for correction, and a Scheibe 512 and a Mitchell B in combination in front of the lens to soften and diffuse the image.

"For moonlight effects with infra-red, I prefer to use a backlight on players in closeups," Glassberg said. "On dull days I used a front key light of 400 foot candles to get contrast in the faces, plus a liner." Because infra-red is essentially a medium for realistic effects, Glassberg avoids what he terms "phony" or "arty" lighting when shooting with this film.

Maury Gertzman is another U-I cinematographer who has acquitted himself admirably in the use of infra-red in the photography of Universal-International's "Johnny Stool Pigeon," currently on the screens of the nation's theatres. Many of the night scenes for this picture were filmed at Nogales, Arizona — on the Mexican border. "We obtained night

effects here," said Gertzman, "that we could not possibly have gotten were we to shoot at night with lights. Besides the cost of transporting to the location and using the necessary number of lights would have been prohibitive."

"Here we tried for the first time a new innovation that is sure to play a big part in all future productions in which infra-red film is used. It is a new material called Scotch Light, which is similar in appearance to the fabric of beaded movie screens. We used panels of this material in the windows of buildings in shooting exteriors. By directing sunlight on these panels with reflectors or by throwing light on them with incandescent lamps, we got a striking effect of lighted windows without the need of actually placing lighting units inside the buildings. Where a window was lacking, and we felt that one would enhance the composition, we simply tacked a panel of scotch light on the side of a home or building and gave it the effect of a real window, when seen from a distance, by putting in "cross-bars" with strips of black tape.

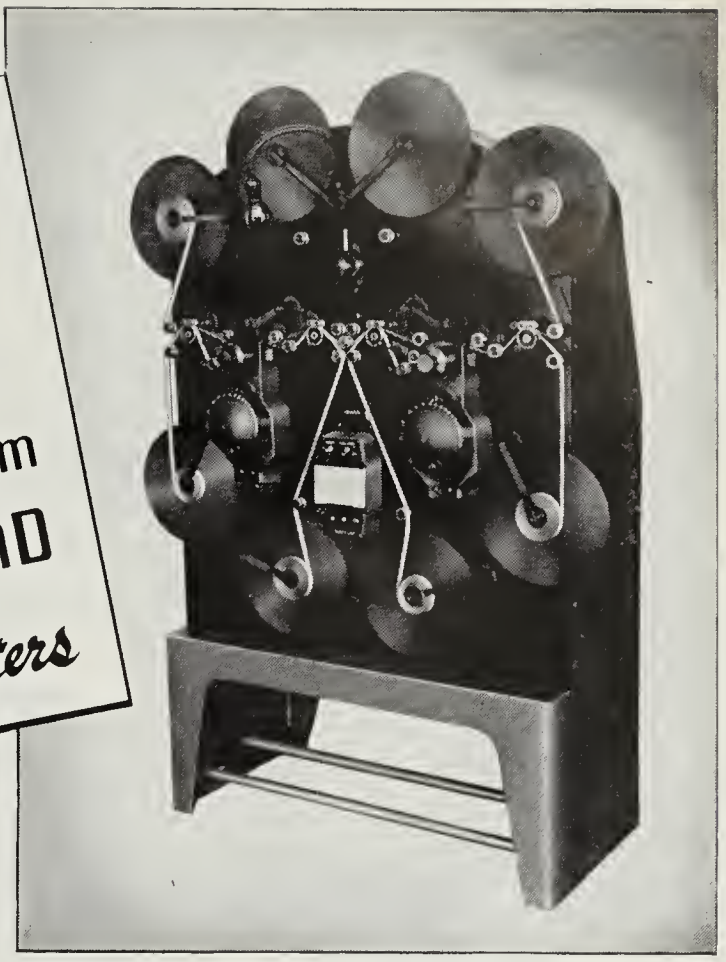
Like Glassberg, Gertzman made exhaustive tests with I-R film before starting his new assignment. "I tried everything in the book, finally found that a 29-F filter produced the most even and consistent results with the film," said Gertzman.

He also pointed out that the studio provided him with specially calibrated lenses for shooting I-R film. Thus, he could use any type of meter to read the prevailing light intensity, and set the lens at the f/stop he would ordinarily use if he were shooting with regular plus X. The lenses are compensated for the 29-F filters used before them when shooting with infra-red, thus freeing the cameraman of any mathematical problems that he might otherwise encounter were the lenses not so calibrated.

The same lenses were also re-calibrated for focus. "Infra-red rays, because of their longer wave length, do not focus in the same plane as visible light rays in the case of many lenses," Gertzman explained. "It is therefore necessary to make adjustment to correct for focusing difference between infra-red and visible light rays."

"Consistency of results," said Gertzman, "is the dominant aim, when using infra-red film. There is no established emulsion speed for infra-red, therefore a cameraman cannot determine his exposure in the same way he would when using plus-X, simply by taking an exposure meter reading. Instead he must make hand tests each day in order to determine what stop he is to use. Unless condition of the light changes appreciably during the day — that is, if the sky doesn't be-

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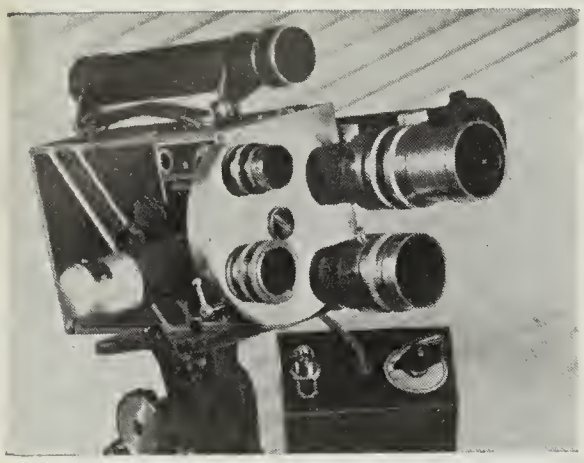
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come overcast or "smog" envelope the locale, the exposure established earlier that day by hand test usually may be relied upon for the rest of the day.

"I think best results follow where the cameraman does no experimenting on location, but gets all this done before starting out, then sticks rigidly to formula."

Probably the greatest painting job in recent film history was done for "Johnny Stool Pigeon" at the big Muroc air base, when it was found that the surface of the airport runways, bearing a reddish hue, went dead white on the infra-red film for night effects. The problem was solved by spraying the entire field, an area of more than 12,000,000 square feet. The job was done in less than three hours by nine spraying machines working at top speed.

Many of the background and process plates for these pictures were photographed on infra-red by Stanley Horsley, who also handled second camera units on some of the productions. He emphasized how important it is in shooting night effects with infra-red, to have all lights in a scene "punch through" the daylight. "Ordinary light globes appear quite 'anemic' when lit out-of-doors in bright sunlight," Horsley pointed out, "and for this reason regular light globes in outdoor signs, street lamps, etc., in all these pictures, were replaced with photofloods. Automobile headlight lamps were replaced with special high-intensity bulbs, which previously had been developed especially for aircraft landings."

Horsley, too, encountered surprising results when photographing certain colors in costumes. Like Glassberg, he had to shoot tests of players' costumes with infra-red to determine which reproduced in the desired tones. In discussing this peculiar phenomenon of colors "going sour" when photographed with infra-red, Horsley holds with many other cameramen that all colors reflect the next lower octave of color, thus gumming up things photographically when I-R film is used.

"Bulk of the credit for successful use of infra-red at Universal-International goes to studio production manager, Jim Pratt," said Horsley, "for it was he who had the courage to try it and to give our directors of photography confidence in undertaking wide, general use of this comparatively new film stock."

It's been interesting as well as educational for Universal-International's directors of photography to explore, improvise, and establish "norms" in the use of infra-red film. It's been profitable for Universal-International, too, because through the successful use of infra-red, they have discovered not only how to pare costs considerably on scripts calling for night scenes, but, additionally, how to give productions greater impact by playing the action in the eerie or mysterious cloak of darkness, instead of rewriting night shots or eliminating them from scripts entirely as an economy measure. That all of U-I's cinematographers have contributed much toward eliminating the "mystery" from infra-red photography is now pretty well established.

TIGER TAPE

(Continued from Page 369)

projector shutter "blink," a light patch is revealed in a given position, then the tape will appear motionless (stroboscopic effect). This is the principle upon which the arrangement operates. Mathematically, with a tape speed of 7½" per second, the proper spacing for one dark and one light patch of the striped tape is .468" at a shutter rate of 16 frames per second.

A word in regard to controlling synchronization. Since most tape recorders are supplied with a motor not easily adapted to speed control and since most of the silent projectors do have such a control, the slight burden of synchronization may be left to the projector, which in practice works out quite well. The projector speed is so adjusted that the pattern on the tape remains stationary throughout the narration. This is all that is necessary at this time, for we have accomplished in this step most of our work — we have recorded the desired sound in exact step with our film.

In playing back, an additional step is necessary, namely, that of starting both tape and film together. This may be done by cueing the film with a bit of lacquer at the sprocket hole area and the tape with a piece of colored Scotch tape. With the aid of a pair of electrical outlets supplied by one switch, both the projector and tape recorder may be started within very close synchronism of each other. If sufficient "leader" is allowed on both units, *exact* synchronism may be obtained within seconds of starting. The film leader is run through until the cueing mark is within a short distance of the film gate and the recording tape cue is likewise placed a short distance from the playback heads.

The method as a whole provides for a minimum of additional expense and equipment and by such token should prove popular in amateur installations.

BETTER MOUSETRAP WAS HOMEMADE MOVIE

(*Continued from Page 366*)

ifications. They would provide a shooting script.

Mr. Prusman made this biological picture, and it sold so well that Coronet Films ordered a second educational film. This second picture has been completed and has also been well received, and the film company and Prusman are now corresponding about a third picture. The world did indeed come to his door, and if he had tried to lure people along the path, he could feel gratified at his success. But perhaps the outcome is even more flattering because it was unexpected and unsought. He had had no intention of selling his films.

Such a brief summary makes his achievement sound deceptively easy, and for those interested in similar projects, it is well to fill in the picture. Speaking of some of his difficulties he said, "Ever since I started making biological pictures, I have been thankful that in Chicago I had a friend who was a biology teacher. For some reason I escaped formal classroom training in biology in both high school and college. This teacher showed me how to prepare slides, and made suggestions and criticisms. Sometimes he provided specimens which he wished to have photographed. I feel that I owe a good deal to him, particularly when I started making a film for someone else, and not just for my own entertainment."

In making the picture for Coronet Films he had several problems to solve. He had never worked with Kodachrome or a script, and his new home had no dark room. The last difficulty he remedied at once by building one himself. He bought a used 16mm. Victor camera, and a supply of Kodachrome film. He had a Carl Zeiss microscope and a reflex viewer. He had everything but the animalcules, and these he did not know where to find.

In Chicago he and his wife had been accustomed to make field trips to Jackson Park Lagoon on Saturdays and Sundays. "I knew the Lagoon well," he said. "I had my favorite pools, and knew just where to dip up a lively supply of specimens. But for my own entertainment, I was satisfied with whichever animalcules the trip of the day provided, or with the specimens which my friend the biology teacher brought me.

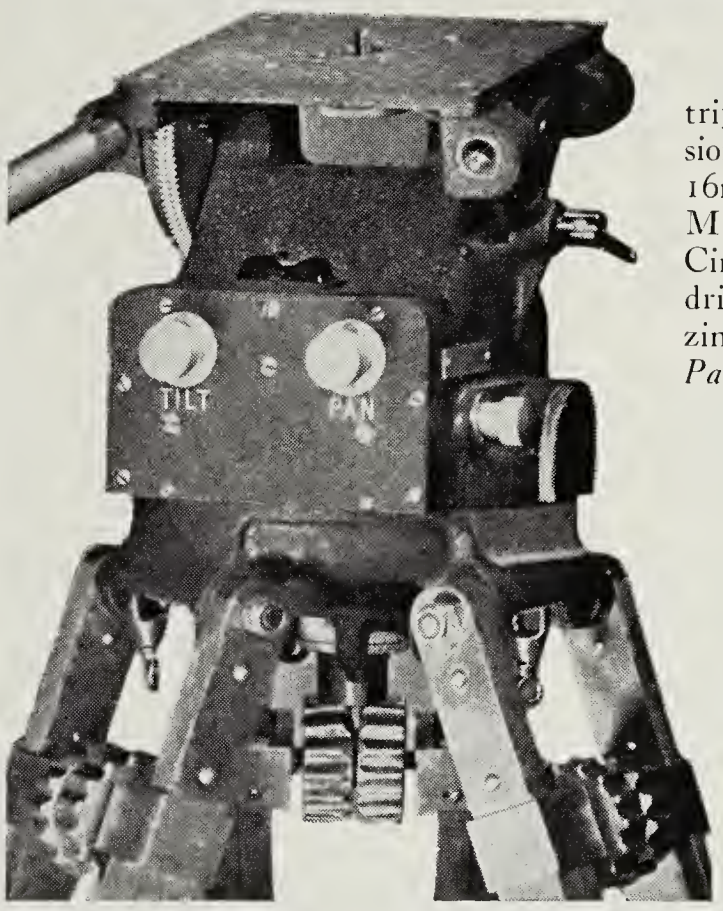
"But Coronet Films had specified certain animalcules by name, among them some that I had never seen and that proved difficult to identify. The Arcella, a shell-bearing member of the Amoeba family, is an example.

"Moreover, I was a stranger in a

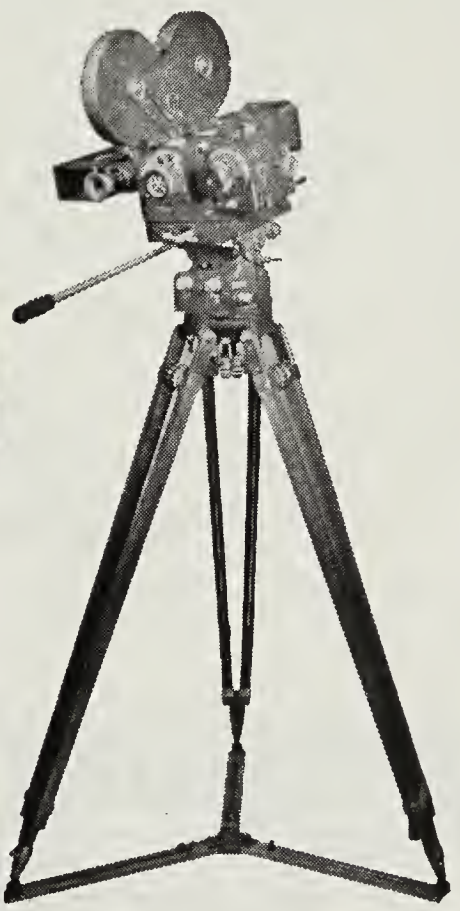
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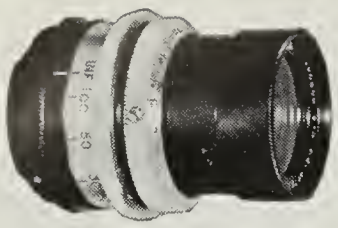
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strange land, and did not know where to look for suitable pools. Even a native might have been at a loss at the time, because the rainy season had not yet started, and many of the streams and pools of California come and go with the rains. The famous Arroyo Seco of Pasadena is not the only dry stream in the state."

People familiar with California know that most of her cities have been made possible because water has been brought from afar for their reservoirs. Since it seldom freezes in the coastal regions of the state, it is possible to keep goldfish in outdoor ponds the year round. When someone remarked that probably many neighbors of the Prusmans had such pools which would provide any amount of slime teeming with life, he said, "Yes, but I didn't know these neighbors."

It was as simple as that to Clyde. He hadn't been introduced, and accustomed for many years to the cold impersonality of a great city, it did not occur to him to ring the doorbells of total strangers and ask if he might dip a bottle of water from their fishpond. "Anyway, I wanted to see the country," he said. "I had a car and plenty of leisure, so I just cruised about looking for pools."

He had traveled between 500 and 1000 miles before finding all of his specimens. In addition to the Arcella, the Hydra, which has green and brown individuals, and the Stentor, which may be either blue or brown, proved elusive.

"I had seen and photographed the brown Stentor in Chicago," he said, "But Coronet Films wanted the blue Stentor as well. I had made countless preparations and was about ready to give up when at last I saw a blue Stentor move in the edge of the field in one slide. It was in the slime from some decayed leaves which I had dipped from some pools near Skyline Boulevard just south of San Francisco. I found the Volvox there, too."

When he had secured his specimens, he had still to solve the problems presented by their lack of cooperation in his project. They were not interested in being movie stars. "I worked by the trial and error method," he said. "It is possible to slow down the animalcules with some viscous substance, such as white of egg, and it is possible to use an anesthetic, such as chloretone. I resorted to anesthesia seldom, because it is too difficult to make the nice adjustment in solution necessary to impede the movement without stopping it forever. Keeping the preparation cold is perhaps the best method.

"The script provided continuity, and to add to the effect, I placed strands of algae as background for each subject so that the algae seemed to proceed continuously through the film. The films were sent in as finished, the last one in August of 1946. The completed picture was 400 feet long, and it runs about twelve to fifteen minutes. Coronet Films gave it the title 'Life in a Drop of Water'."

The second picture which he made for Coronet Films was entitled "The Cell —The Structural Unit of Life." "In this picture I used not only unicellular, but multicellular structures," he said, "the latter in the form of two high school boys, who complicated my problem considerably."

The opening shots showed the boys strolling along a creek, finding specimens. The remaining shots of the boys were taken in the Prusman living room, which was rigged up to look as much as possible like a schoolboy's laboratory. The older boy demonstrated to the younger the technique of preparing slides, adjusting the microscope, etc. "The Cell" has proved a popular picture.

Just as a hobby Mr. Prusman has made a number of other pictures, with the advice of his friend the biology teacher. These films compare the circulation of blood in the web of a frog's foot with the streaming of cholorphyll in leaf cells. For the picture of cholorphyll he used Elodea, which has leaves so thin they require no dissection. He has also photographed the development of the embryo of a chick, and the life cycle of the mosquito, and of the frog.

He belongs to five international portfolios for exchange of photographs and comments on work: American, Australian, Canadian, English, and Indian. He said modestly he does not feel that he has a great deal of talent as a pictorial photographer, and is glad that his main interest lies in scientific pictures.

Asked whether he intended to go into the movie business on a larger scale, Mr. Prusman said his answer was definitely no. He has no intention of making pictures in which he would use human actors, for instance, to any extent.

"Granted that animalcules present problems of behavior that are challenging, nevertheless a man doubling as photographer and director can control the situation. With human actors he must needs be more circumspect. Much as he might wish to, he could not anesthetize them!

"No," he said, with a twinkle in his keen eyes, "I have no intention of invading Hollywood. I'll stick to my sunny hillside and my own dark room. Movies are just a hobby with me, and I don't intend to take myself too seriously.

"I'll never hear myself referred to as a Movie Mogul, because I'm strictly a home movie man."

MAGIC OF MONTAGE

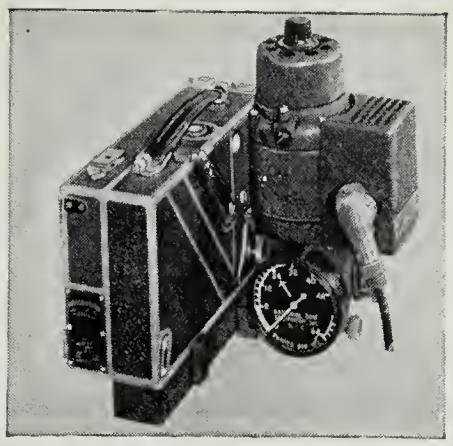
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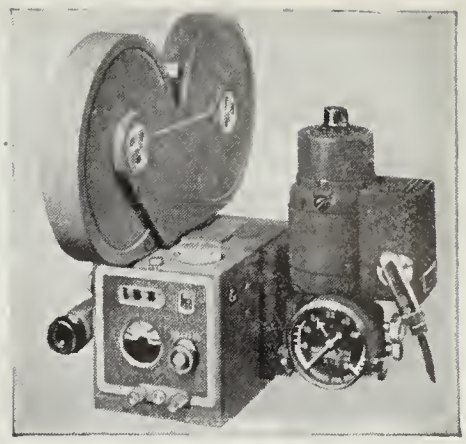
ing schedule of a prize fighter. In this case, the entire montage was plotted in a definite rhythmic pattern into which the separate actions fit almost as if paced by a metronome. Such actions as the punching of a bag, the skipping of a rope, footwork, and calisthenics were precisely edited into a pattern to form what amounted to a filmic ballet.

The impression was heightened by the accompaniment of a precisely matched musical score. Over it all, the natural descriptive narration of one of the principal characters managed to keep the device from slipping into pure fantasy. The dominant impression left by this particular montage was one of clockwork routine, split-hair timing, and machine-like human precision. Thus, in one forceful but short length of film, the robot routine of a prize-fighter's training schedule was dramatically portrayed.

The mechanics of montage are basically simple and clear-cut. There are three main styles: the *cut* montage, the *dissolve* montage, and the *superimposed* montage. The cut montage, as the term implies, is a series of short scenes cut together in a staccato pattern. These scenes may not be related in actual content, but their skilful cutting, one next to the other, results in an inter-relation which conveys itself to the audience-mind. The dissolve montage is a series of short scenes which flow one into the other by means of dissolved transitions. It is less staccato than the cut montage, and depends for its effect upon fluid movement from one idea to the next. One scene is still partially visible as another scene is taking form, and a subtle inter-relationship of succeeding scenes is thus created. The superimposed montage, as the term indicates, is composed of two or more separate images printed or exposed one upon the other, so that they combine to form a single impression. For example, the basic image might be a close-up of a frightened feminine face. Superimposed over this scene, would be shots of exploding cannon, surging tanks, and great masses of soldiers in action. The impression conveyed is that of a woman not merely frightened by war, but actually caught up in the maelstrom of the conflict itself.

The creation of a montage is a highly specialized process. A great deal more is involved than the mere cutting or dissolving of one scene into the other. Montage experts in the studios work out a visual pattern in terms of the impression to be conveyed, and proceed in the editing process to precisely assemble the various separate scenes which have been





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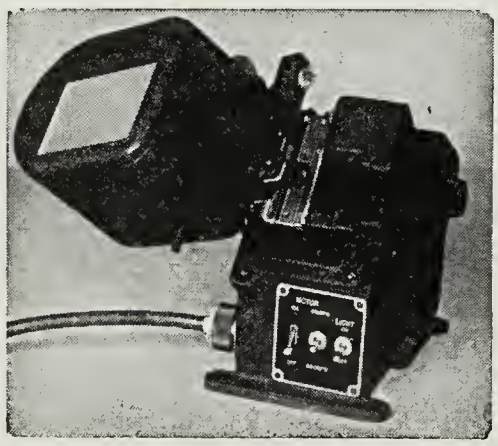
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photographed according to the preconceived plan. These scenes are edited down to the precise frame, so that the pace, tempo, and rhythm of the sequence, are consistent with the original idea.

The art of the Montage has long been a mainstay of European film production. In many foreign films it has been used with forceful effect. Inevitably, however, it has also been abused in some instances through the use of such obscure symbolism that the resulting impression was a meaningless hodge-podge. In America, the art of creative montage has not yet been fully developed. The tendency is to fall into formulas of *cliché* which achieve transitional purposes with little originality. Correctly used, montage approaches pure cinema — which, after all, is nothing more than the art of visually advancing a dramatic story without calling attention to the mechanical effects involved.

UNDER CAPRICORN

(Continued from Page 359)

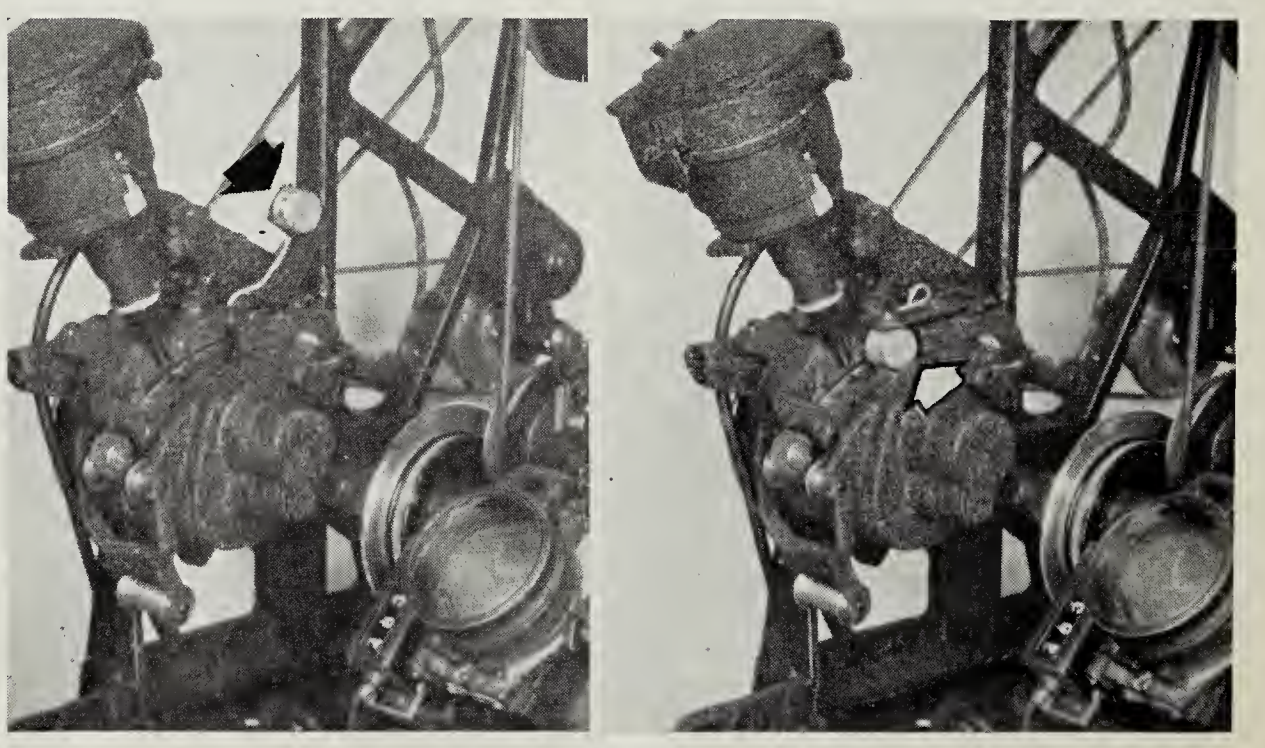
dozens of dimmer shutters, etc., to a split-second cue!

I must say that I owe a tremendous amount to American equipment. I just don't know what I would have done without American Mazda photospots and photofloods, etc.

Well, it's over. The film was completed by this method in twelve weeks instead of twenty-five by usual standards. I could have minimized my difficulties by flat newsreel lighting, but I doubt if any cameraman in the world would have accepted such a compromise, and whatever the results I can only say I tried to obtain the same quality of lighting in spite of the horrifying difficulties. On most occasions, instead of saying: "I want a lamp *here*," I had to ask what possible room was left to put a lamp, and how long it could stay there before the camera, or a wall, engulfed it!

Hitch was always ready to change the action if things got really tough, but like anyone else, I was always loathe to admit defeat. I am not going to weigh the pros and cons of this method of film making. Those against this technique will jubilantly point to the necessity of cutting some of our long reels for story adjustments. I was, of course, chagrined to see the blood, tears and sweat of a reel's work cut, but it would be invidious to air my views on such a platform subject. I shall only say that it was a technical nightmare I wouldn't have missed for worlds!

Magnetic Sound Conversion For Moviolas



TWO VIEWS showing standard 35mm. Moviola modified for magnetic film sound tracks. Addition of magnetic pickup plus alteration of amplifier enables Moviolas to reproduce magnetic as well as optical sound tracks on 35mm. film. Pickup head is shown in "open" position in photo at left, and in "closed" position ready for use at right.

KEEPING pace with the growing use of magnetic film recording in the production of motion pictures, Moviola Manufacturing Company, 1451 Gordon Street, Hollywood, now offers a conversion for standard 35mm. Moviolas permitting them to reproduce magnetic as well as optical sound tracks. The conversion,

which is done at the Moviola factory in Hollywood, consists of adding a magnetic pickup head to the sound track channel of the Moviola. The modification in no way affects use of the Moviola for optical sound tracks. Approximate cost for converting a 35mm. Moviola for magnetically recorded 35mm. film is $110.00, according to Mark Surrurier, company head. Moviola's also can be converted for 17½mm. (slit 35mm.) magnetic film at slight additional cost.

The magnetic pickup head is mounted on gate part No. 4039. It may also be mounted in different positions across the film channel, in order to accommodate the different recording positions on 35mm. film which are now in use. In the current conversion, the film runs through the Moviola with the magnetic coating "up" in the gate.

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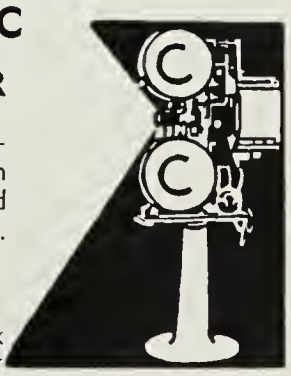


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Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

Columbia

• Charles Lawton, "Rogues Of Sherwood Forest" (In color), with John Derrick, Diana Lynn, George MacReady and Gig Young. Gordon Douglas, director.

• Burnett Guffey, "A Mother For May," with William Holden, Coleen Gray and Charles Winninger. Norman Foster, director.

• William Snyder, "The Petty Girl," with Robert Cummings, Joan Caulfield, and Elsa Lanchester. Henry Levin, director.

• Ira Morgan, "Mark Of The Gorilla" (Katzman Prodn.) with Johnny Weismuller, Trudy Marshall. William Berke, director.

Independent

• Benjamin Kline, "Tough Assignment," with Don Barry, Marjorie Steele and Steve Brody. Wm. Beaudine, director.

• Archie Stout, "Never Fear" (Filmakers, Inc.) with Sally Forest, Keefe Brasselle and Rita Lupino. Ida Lupino, director.

M-G-M

• Hal Rosson, "Key To The City," with Clark Gable, Loretta Young, Frank Morgan and Marilyn Maxwell. George Sidney, director.

• Joseph Ruttenberg and George Folsey, "The Big Hangover," with Van Johnson, Elizabeth Taylor, Fay Holden and Selena Royle. Norman Krasna, director.

• John Alton, "Devil's Doorway," with Robert Taylor, Paula Raymond, Marshall Thompson and Louis Calhern. Anthony Mann, director.

• Harry Stradling, "The Yellow Cab Man," with Red Skelton, Gloria DeHaven, Walter Slezak, James Gleason and Edward Arnold. Jack Donohue, director.

• Charles Schoenbaum, "Outriders," (In Color) with Joel McCrea, Arlene Dahl and Barry Sullivan. Roy Rowland, director.

• Paul C. Vogel, "You're Only Young Twice" (In Color), with Dean Stockwell, Scotty Beckett, Darryl Hickman and Leon Ames. William A. Wellman, director.

• Joseph Ruttenberg, "The Miniver Sequel (In Color—shooting in England), with Greer Garson, Walter Pidgeon, John Hodiak and Cathy O'Donnell. Henry Potter, director.

• Ray June, "The Reformer And The Redhead," with June Allyson, Dick Powell, David Wayne and Cecil Kellaway. Norman Panama and Melvin Frank, directors.

Monogram

• William A. Sickner, "Wolf Hunters," with Kirby Grant, Helen Parrish, and Charles Lang. Oscar Boetticher, director.

• Marcel LePicard, "Masterminds," with Leo Gorcey, Huntz Hall and Gabriel Dell. Jean Yarbrough, director.

• Harry Neumann, "Six-Gun Mesa," with Johnny Mack Brown, Gail Davis, and Milburn Moranti. Wallace W. Fox, director.

Paramount

• Charles Lang, "Fancy Pants," (In Color) with Bob Hope, Lucille Ball, Lea Penman, Jack Kirkland and Eric Blore. George Marshall, director.

• George Barnes, "Let's Dance" (In Color) with Betty Hutton, Fred Astair, Roland Young, Barton MacLane and Ruth Warrick. Norman McLeod, director.

• John Seitz, "United States Mail," with Alan Ladd and Phyllis Calvert. Lewis Allen, director.

• James Wong Howe, "Eagle And The Hawk" (In Color) with John Payne, Rhonda Fleming, Dennis O'Keefe and Thomas Gomez. Lewis R. Foster, director.

• Victor Milner, "September" (Hal Wallis Prodn.—Shooting in Europe) with Joan Fontaine and Joseph Cotten. William Dieterle, director.

R-K-O

• Milton Krasner, "Christmas Gift," with Robert Mitchum, Janet Leigh, Wendell Corey and Gordon Gebert. Don Hartman, director.

• Russell Harlan, "Tarzan And The Slave Girl" (Sol Lesser Prodn.) with Lex Barker and Vanessa Brown. Lee Sholem, director.

• Ray Rennahan, "The White Tower" (Shooting in Europe) with Glenn Ford, Valli, Claude Rains, Sir Cedric Hardwicke, Oscar Homolka, Lloyd Bridges, Ted Tetzlaff, director.

• Edward Cronjager, "Daybreak" (Busch Prodn) with Lew Ayers, Teresa Wright and Jacqueline White. John Sturges, director.

• Lee Garmes, "With All My Love" (Samuel Goldwyn Prodn.) with Ann Blyth, Joan Evans, Farley Granger, Donald Cook, Jane Wyatt, Ann Dvorak and Phyllis Kirk. David Miller, director.

• Freddie Young, "Treasure Island" (Walt Disney Prodn.—Shooting in England) with Bobby Driscoll, Robert Newton, Basil Sidney and Denis O'Dea. Byron Haskin, director.

• Nicholas Musuraca, "Dynamite Trail," with Tim Holt, Richard Martin, Lynne Roberts and Regis Toomey. Lew Landers, director.

• Harry Wild, "Carriage Entrance," with Robert Mitchum, Ava Gardner and Melvyn Douglas. Robert Stevenson, director.

20th Century-Fox

• Charles G. Clarke, "Two Corridors East" (Shooting in Berlin, Germany) with Montgomery Clift, Paul Douglas, Cornella Burch and Burni Loebel. George Seaton, director.

• Harry Jackson, "A Ticket To Tomahawk (In Color) with Dan Dailey, Ann Baxter, Rory Calhoun and Walter Brennan. Richard Sale, director.

• Fred Jackman, Jr., "The Cariboo Trail" (Nat Holt Prodn.—In Color) with Randolph Scott, Bill Williams, Victor Jory and Karin Booth. Edwin L. Marin, director.

• Arthur Miller, "The Gun Fighter," with Gregory Peck, Helen Wescott, Jean Parker and Skip Homeier. Henry King, director.

• Joseph LaShelle, "The Big Fall," with John Garfield, Micheline Prelle, Luther Adler and Orley Lindgren. Jean Negulesco, director.

United Artists

• Ernest Laszlo, "Dead On Arrival" (Harry M. Popkin Prodn.) with Edmond O'Brien, Pamela Britton, Luther Adler, Wm. Ching and Beverly Campbell. Rudolph Mate, director.

• Stanley Cortez, "The Whip" (Hal E. Chester Prodn.) with Dan Duryea, Gale Storm, Herbert Marshall and Howard DaSilva. Cyril Endfield, director.

• Paul Ivano, "Champagne For Caesar" (Popkin Prodn.) with Ronald Colman, Celeste Holm, Barbara Britton, Vincent Price and Art Linkletter. Richard Whorf, director.

Universal-International

• William Daniels, "Fugitive From Terror," with Ida Lupino, Stephen McNally, Howard Duff, Peggy Dow and John Litel. Michael Gordon, director.

• Maury Gertzman, "The Bowie Knife" (In Color) with Maureen O'Hara, MacDonald Carey, Charles Drake. George Sherman, director.

• Irving Glassberg, "The Big Frame," with Scott Brady, John Russell, Peggy Dow and Dorothy Hart. William Castle, director.

• Russell Metty, "Sierra" (In Color) with Audie Murphy, Wanda Hendrix, Anthony Curtis, Burl Ives. Alfred E. Green, director.

• Clifford Stine, "Outside The Wall," with Richard Basehart, Marilyn Maxwell, Dorothy Hart. Crane Wilbur, director.

• William Daniels, "Deported" (Shooting in Italy) with Marta Toren, Jeff Chandler. Robert Siodmak, director.

• Maury Gertzman, "Double Crossbones," (In Color) with Helena Carter, Donald O'Connor, John Emery. Charles Barton, director.

Warner Brothers

• Ted McCord, "Young Man With A Horn," with Kirk Douglas, Lauren Bacall, Doris Day, Hoagy Carmichael, and Juano Hernandez. Michael Curtiz, director.

• Carl Guthrie, "Locked In," with Eleanor Parker, Agnes Moorhead, Gertrude Michael, Ellen Corby. John Cromwell, director.

• Ernest Haller, "Always Leave Them Laughing," with Milton Berle, Virginia Mayo, Ruth Roman, and Bert Lahr. Roy Del Ruth, director.

• Wilfrid Cline, "The Daughter Of Rosie O'Grady (In Color) with June Haver, Gordon MacRae, Gene Nelson, James Barton. David Butler, director.

• Sidney Hickox, "After Nightfall," with David Brian, Marjorie Reynolds, Claudia Barrett, John Archer. Peter Godfrey, director.

BALANCING TV CAMERA TUBES

(*Continued from Page* 362)

consisting of a variety of test patterns and then attempting to check and compare those patterns against their images as they appear on the monitor, only five of the many important camera characteristics and adjustments can be checked.

With the Video Analyzer, fifteen checks can be made quickly, easily and accurately. A cameraman, once he is acquainted with the Analyzer, can adjust and align a camera in about ten minutes. The fifteen checks are:

1. Turret Alignment.
2. Merchanical Alignment of Image Orthicon Assembly.
3. Old Mosaic (or previously scanned target area).
4. Vertical and Horizontal Image Size.
5. Vertical and Horizontal Linearity.
6. Vertical and Horizontal Centering.
7. Vertical and Horizontal Shading.
8. Resolution (Both horizontal and vertical by rotating analyzer).
9. Color Response.
10. Sensitivity.
11. Saturation Point.
12. Contrast Range.
13. Frequency Distortion.
14. "S" Distortion (Image section electrical adjustment).
15. Scanning Tilt.

To check one camera against another to insure the use of matched cameras on a multi-camera show, a Video Analyzer is mounted on each camera and the cameras switched from one to another on the master monitor. In this way, the image from each camera can be studied and compared on the one master monitor.

Similarly control monitors may be checked against the master monitor and adjusted to give comparable images. The camera viewfinders should also be checked against the master monitor and adjusted to give comparable images. With all monitors giving comparable images, cameramen, directors, and program manager have a uniform basis for judging image quality.

Hypersensitizing Film

Russian scientists, making extensive exploration in the use of mercury vapors for hypersensitizing photographic films, have reported the results of tests conducted with typical emulsions which were studied sensitometrically with a light source having a color temperature of 5000° K. They report mercury vapor treatment of negative and positive motion picture film resulted in an average increase of sensitivity of from 1.2 to 3.6 times. They found that the effect is more pronounced the slower the original speed of the emulsion. Also that emulsions hypersensitized generally showed a diminishing effect of the treatment after 24 hours and that it disappears entirely after a period of nine days.

On the other hand, where the hypersensitized film is exposed, but not developed, the hypersensitized effect remained even after nine days. Other observations revealed that velocity of film development is increased by mercury treatment in the first stages, and that in the later stages, mercury treated emulsions develop more slowly than untreated ones, and that the increase of the bromide content in the film emulsion enhances the effect of hypersensitizing.

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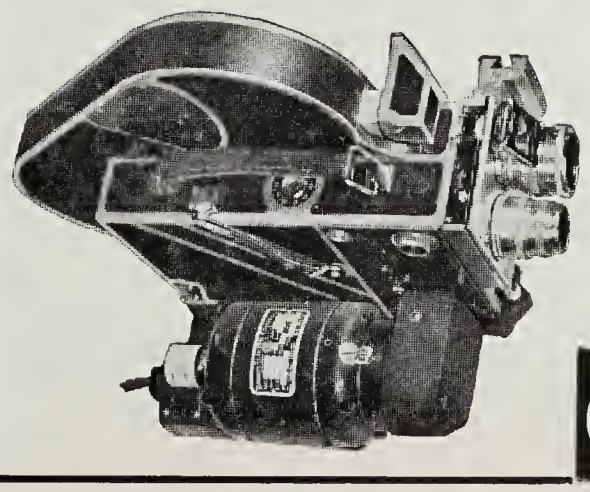
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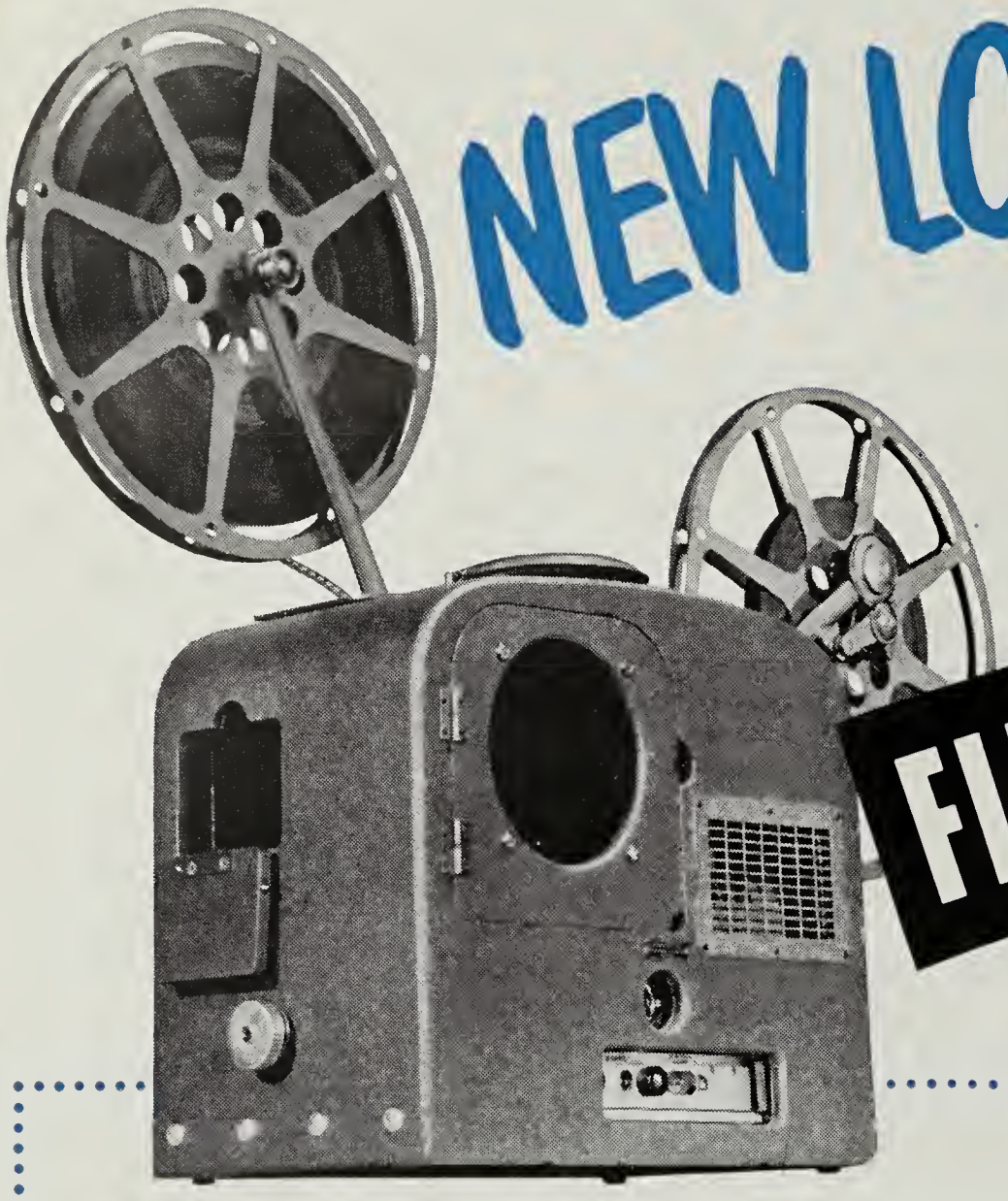
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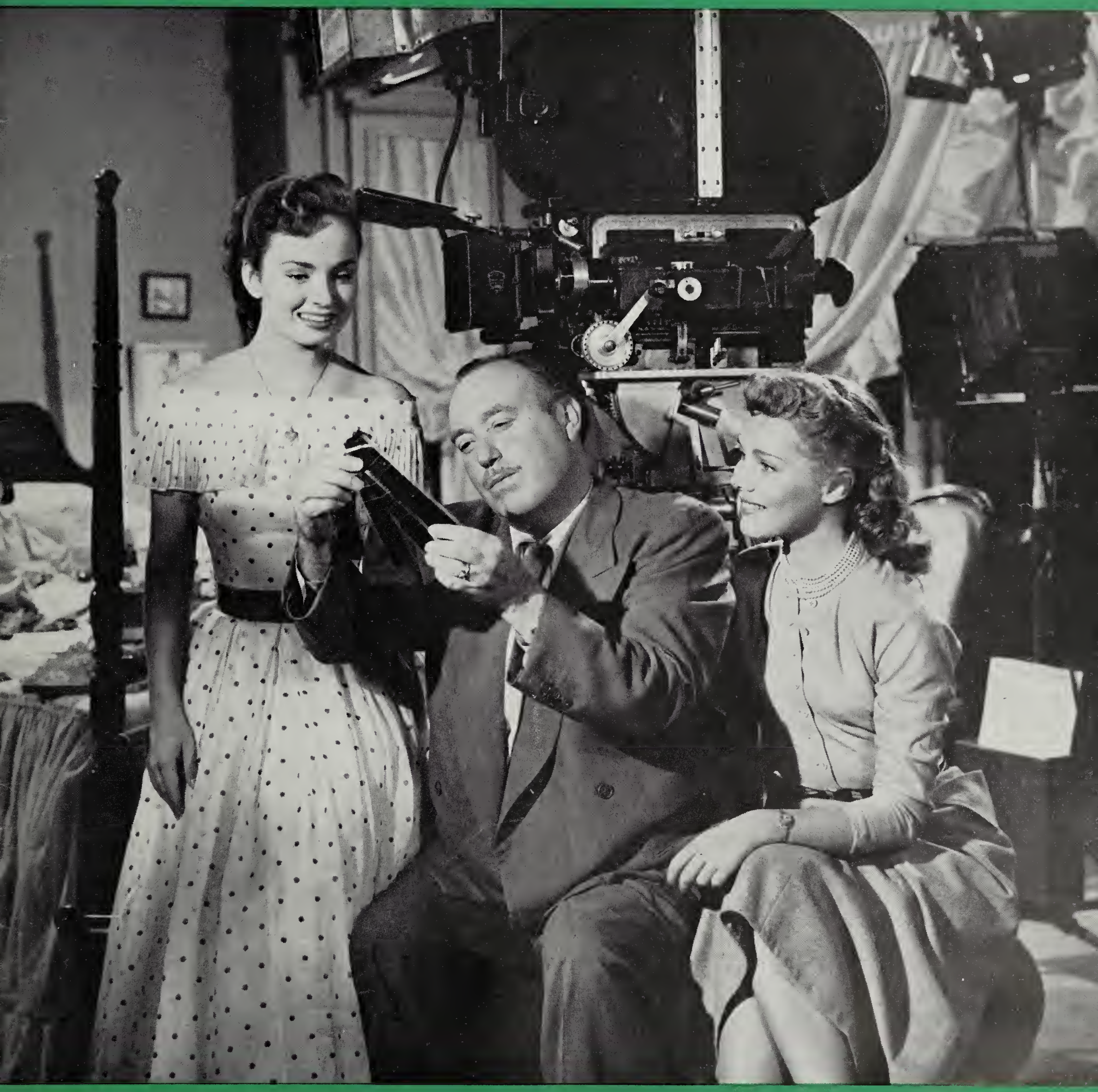
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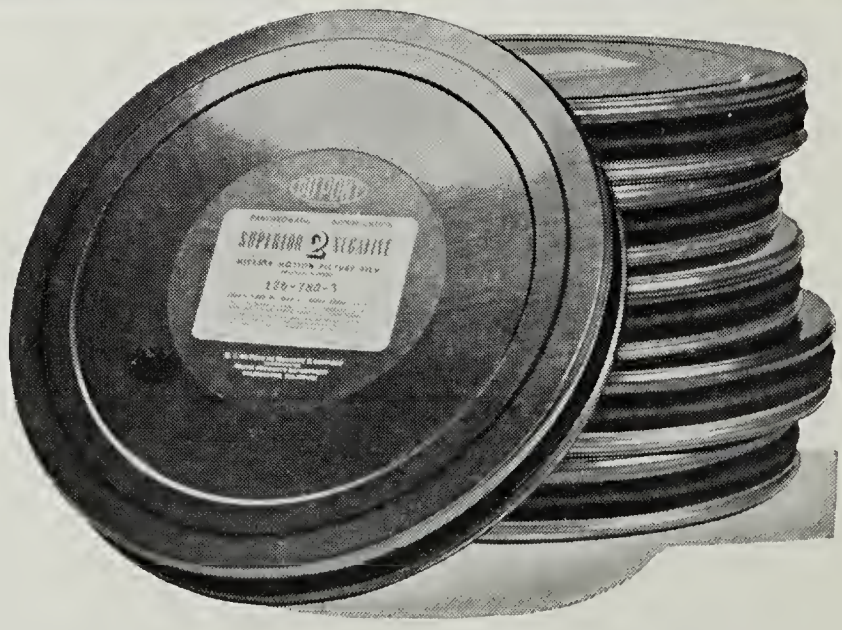
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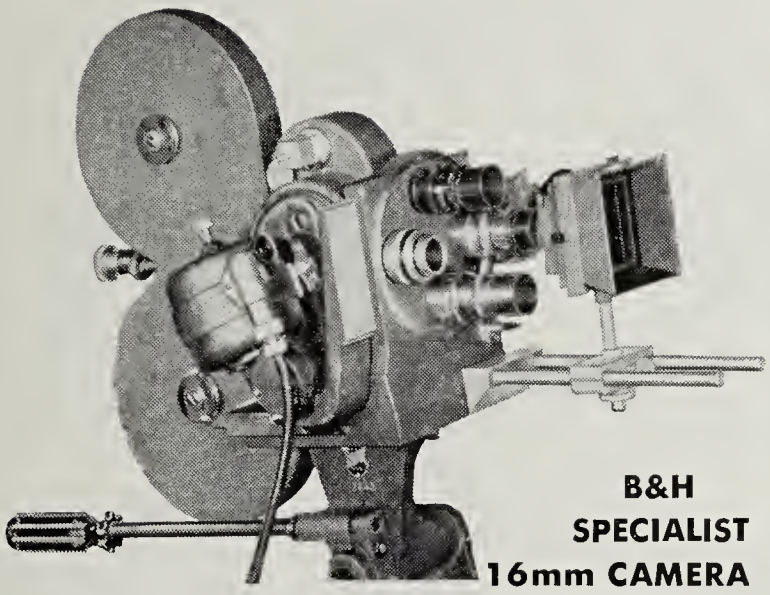
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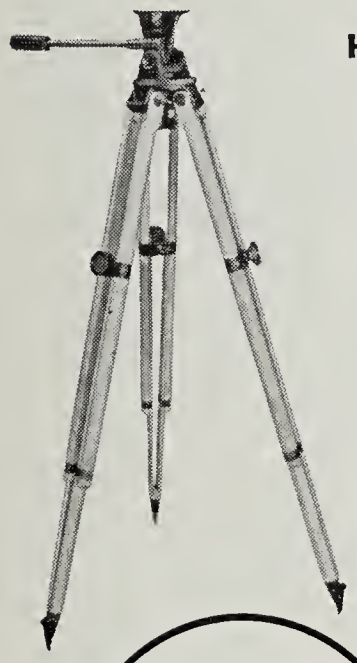
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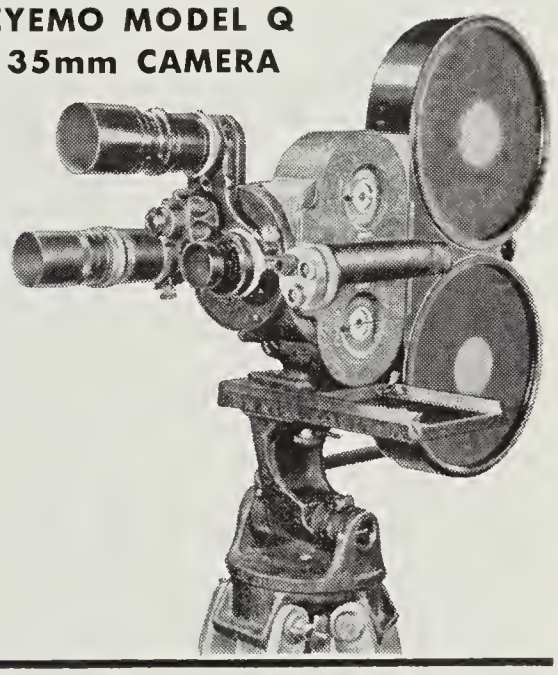
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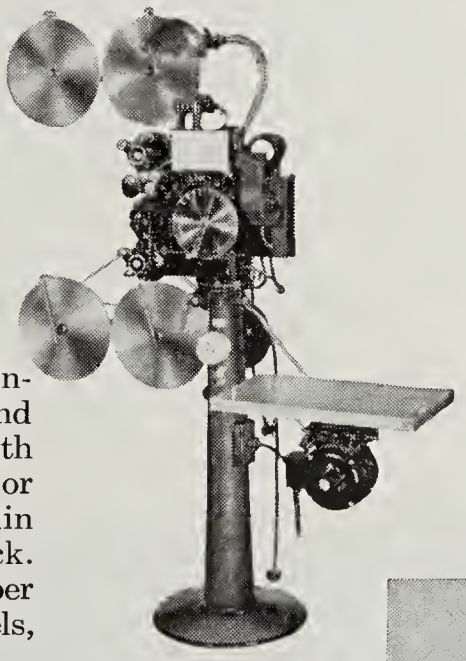
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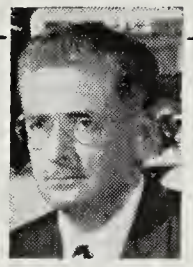
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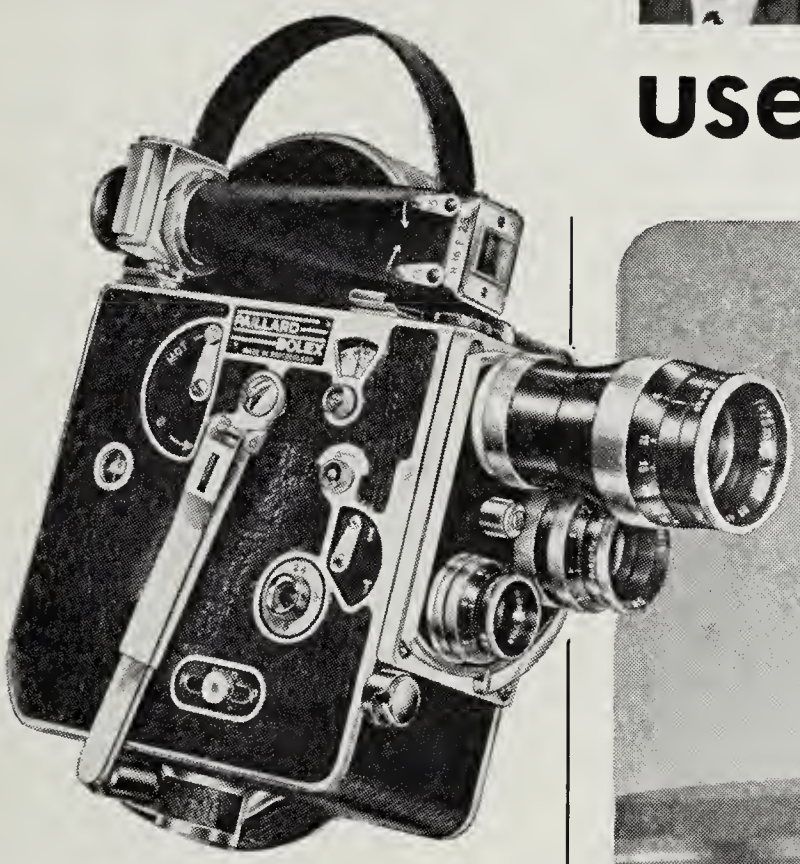
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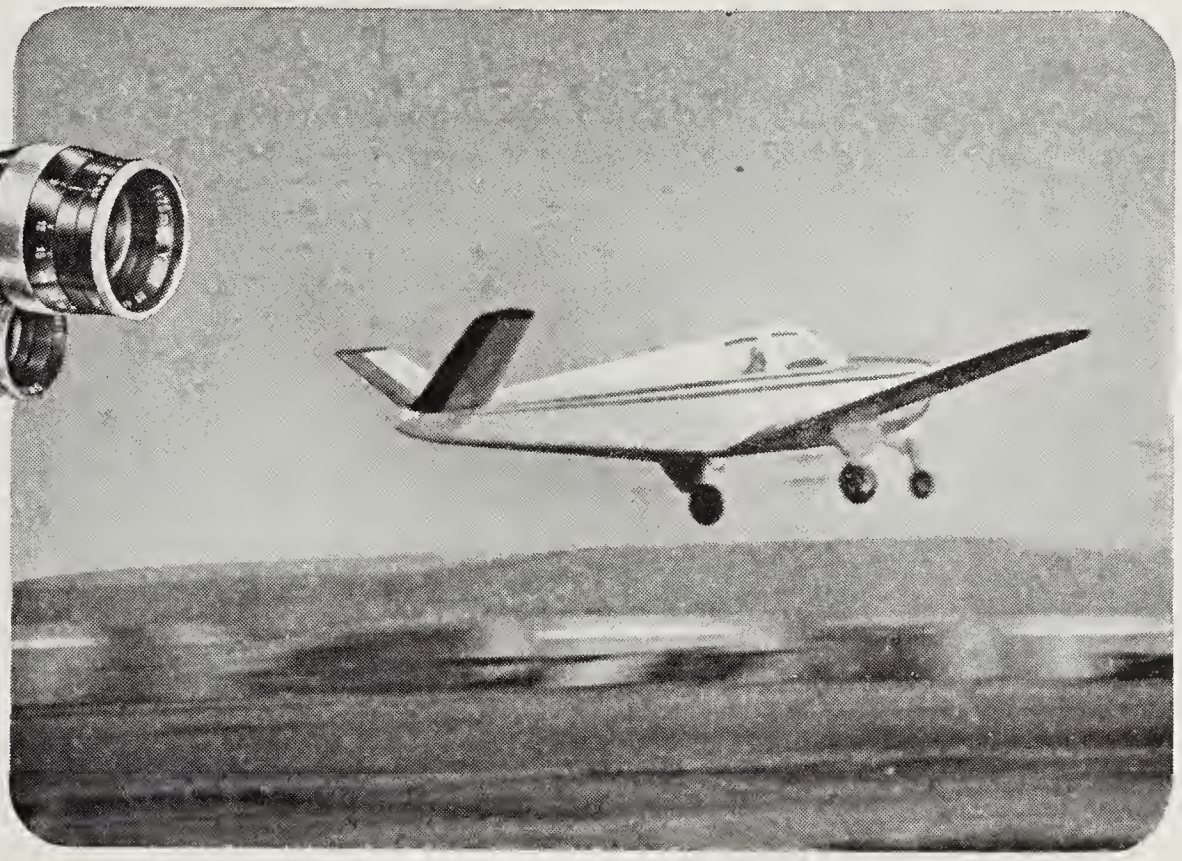
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Circulation, MARGUERITE DUERR
EDITORIAL ADVISORY BOARD: Fred W. Jackman, A.S.C., John Arnold, A.S.C. Arthur Edeson, A.S.C., Lee Garmes, A.S.C., Charles Rosher, A.S.C., Leon Shamroy, A.S.C., Fred Gage, A.S.C., Dr. J. S. Watson, A.S.C., Dr. L. A. Jones, A.S.C., Dr. C. E. K. Mees, A.S.C., Dr. V. B. Sease, A.S.C., Col. Nathan Levinson.

Editorial and Business Office: 1782 N. Orange Dr., Hollywood 28, Calif.
Telephone: GRanite 2135

VOL. 30 NOVEMBER • 1949 NO. 11

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ON THE COVER

LEE GARMES, A.S.C., during a lull in the shooting of Samuel Goldwyn's "With All My Love," shows starlet Ann Blyth and Phillis Kirk, who plays supporting role, light tests of their most dramatic scene. Assignment is third in a row for Garmes at Goldwyn Studio.—*Photo by John Michle*

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1949 by A. S. C. Agency, Inc. AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.

★

AMERICAN SOCIETY OF CINEMATOGRAPHERS

FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

The Society meets regularly once a month at its clubhouse at 1782 North Orange Drive, in the heart of Hollywood. On November 1, 1920, the Society established its monthly publication "American Cinematographer" which it continues to sponsor and which is now circulated in 62 countries throughout the world.

Dominant aims of the Society are to bring into close confederation and cooperation all leaders in the cinematographic art and science and to strive for pre-eminence in artistic perfection and scientific knowledge of the art.

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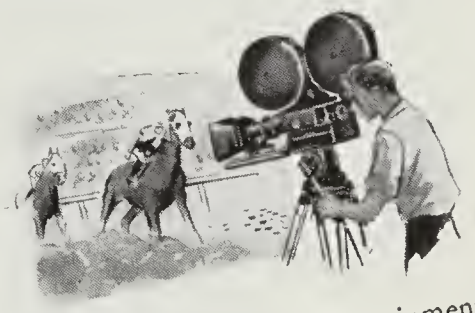


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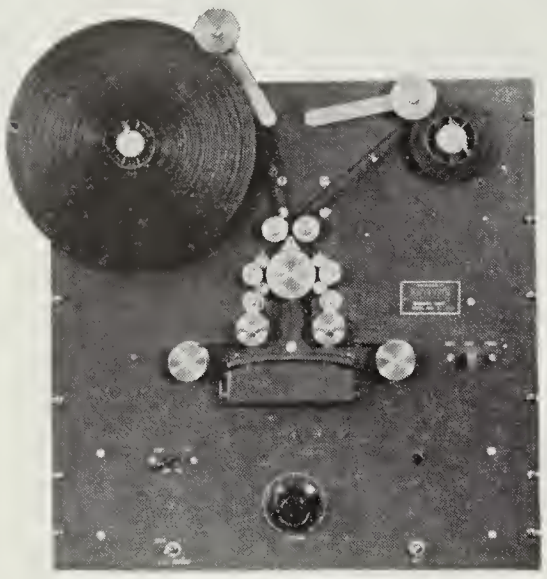
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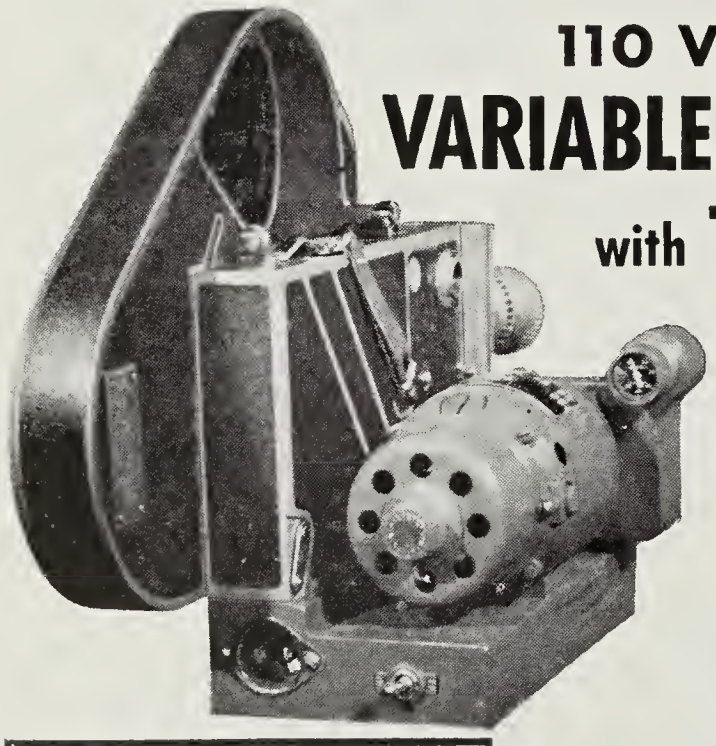
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TOM TUTWILER, A.S.C., has returned to Alaska to resume photography on a series of training films which Apex Film Corp. is producing for the U.S.A.F. Shooting remainder of series in Monopack, Tutwiler will use a special Mitchell camera conditioned for trouble-proof operation in below-zero temperatures.

•

CHARLES G. CLARKE, A.S.C. President, returned to Hollywood from his Berlin Assignment October 27. After reporting in to 20th Century-Fox, he made preparations to fly to New York where he is to be a guest of honor at the formal opening and dedication of the George Eastman House in Rochester. Clarke will participate in a symposium on "The Science And Art of Photography," to be given in Kilburn Hall.

•

DEWEY WRIGLEY, A.S.C., is in Europe gathering stock shots for Paramount Pictures to replace the obsolete pre-war footage in its library. He recently completed shooting in Switzerland and was last reported in Italy.

•

RICARDO MARCELINO, A.S.C. has extended his Hollywood stay in order to supervise the processing, editing and dubbing of sound for the first Ansco Color feature filmed in the Philippines. Picture was photographed by his son, Tomas, who is pinch-hitting as cameraman in dad's absence at the Premiere Studio in Manila.

•

O. H. BORRADAILE, A.S.C., and Al Gilks, A.S.C., while shooting color tests in Griffith Park, near Hollywood, recently, checked what might have been a disastrous fire there. Observing brush on a nearby hill suddenly bursting into flame, they quickly summoned the fire department who had conflagration under control in record time. Borradaile photographed the British production "Saints And Sinners," which is receiving rave notices from critics during its current New York run.

•

KARL FREUND'S paper on color temperature, which was read at the recent convention of the S.M.P.E. in Hollywood, was one of highlights of the papers program. Paper proposed a new and simpler system to describe color composition of light sources, obviating need for tables or involved computations.

•

TELEVISION station KECA-TV recently demonstrated the practicability of projecting backgrounds in sync with TV cameras, using 16mm. projectors. Synchronization is effected by speeding up projector to 30 frames per second.



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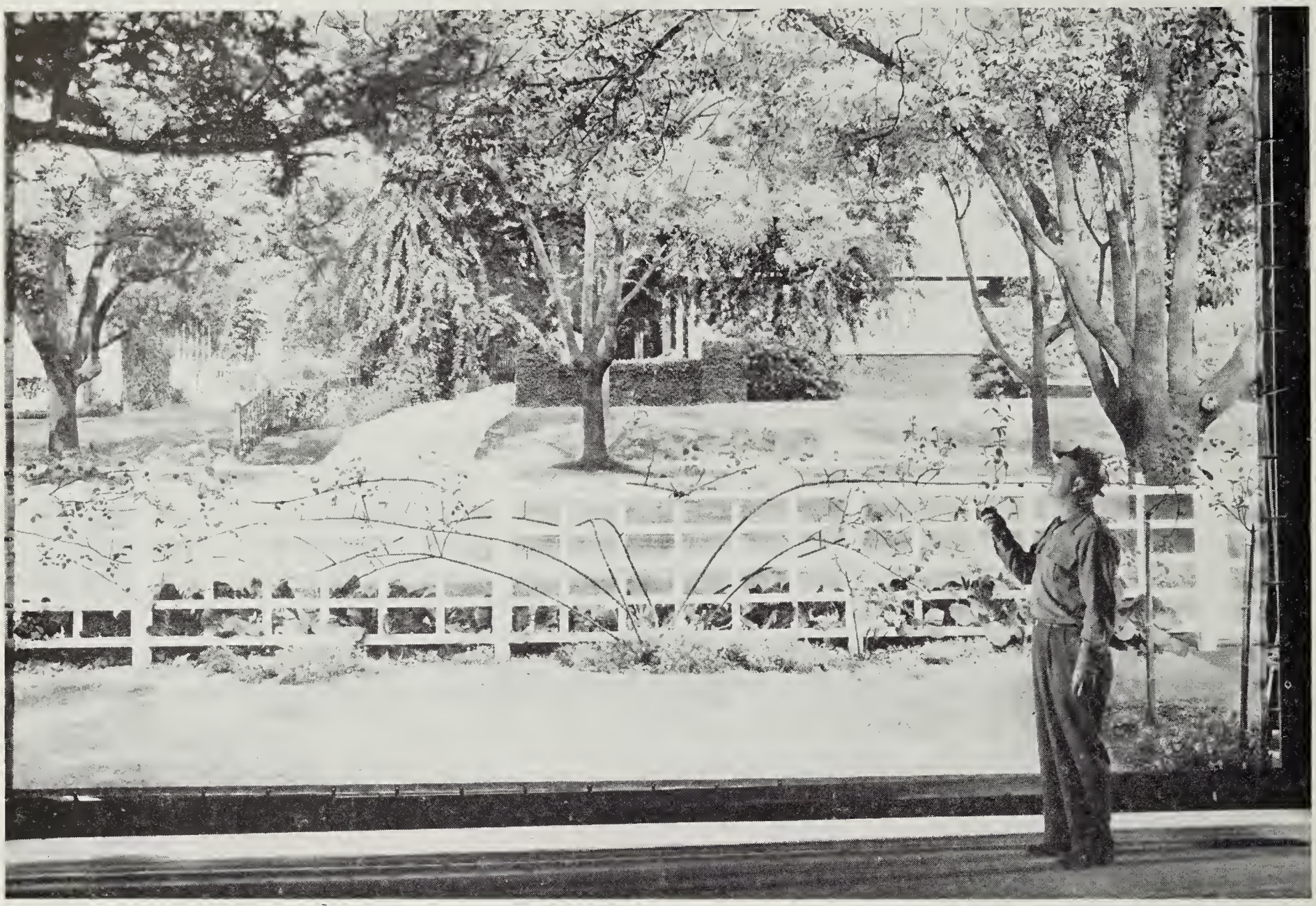
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ONE of the five M. B. Paul photo backgrounds used in Samuel Goldwyn's production "With All My Love." Vic Jones, of the studio's electrical department, who designed special lighting equipment for the backgrounds, is shown here taking a light meter reading, preparatory to varying the light for different areas of the backing. It is shown lit above normal intensity, from which point Jones worked down to the lighting desired.

Lighting Translucent Backings

New multi-unit light source developed by Goldwyn Studio technicians cuts lighting costs and affords more selective illumination control.

By LEE GARMES, A.S.C.

"WITH ALL MY LOVE," which we recently completed shooting at Samuel Goldwyn studio, marks the first wide use of the new one-piece translucent photo backgrounds recently introduced by M. B. Paul.* More important, it marks the development of a greatly improved method for illuminating them.

Through the use of these backings we were able to bring some of the original exterior locale for the picture right into the studio, incorporating it with the sets. The backings which M. B. Paul produced for the picture were comparatively simple, consisting of five exterior views as seen from the front, sides and rear of the Pasadena residence which provided the main locale of the story. Through their use, we were able to cut location time considerably. We spent only two days and part of two nights at Pasadena. The rest we filmed at the studio, the backings filling in whatever we needed scenically in conjunction with the studio sets.

Previously the art department had supplied Paul with a chart of the camera angles to follow and he went out and shot

*M. B. PAUL'S method for making and using his recently developed one-piece translucent photo backgrounds was described in an article in the July, 1949, issue of *American Cinematographer*. Paul, former studio still photographer and member of International Photographers Local 659, is believed to be the first to develop a satisfactory method for applying sensitized emulsion evenly distributed on large scale translucent surfaces. His backings not only improve sets pictorially, but contribute marked economies both in time and lighting costs.

8 by 10 negatives for the backings. From these he made 15 by 20 foot photo enlargements on sheets of durable, seamless translucent material, a product of his own secret process, delivering them to the studio in advance of starting date of the picture. Thereafter began a series of tests and experiments which culminated in the development of a lighting method for the backings that is destined to become standard practice throughout the industry.

Previously, where these backings have been used, they have been illuminated from the rear by various methods. At some studios this has been done by reflected light while at others spots or floods were used. At first we tried lighting them with as many as fifteen Duarcs.

One of the things we discovered early was that these backings, in addition to being superior to the old opaque type, also afforded the director of photography opportunity to extend the scope of his compositional lighting to the backings themselves —providing the proper lighting could be developed. What we needed was a source of illumination that could be varied over the entire area of the backing—made "hot" at one point and subdued at another, and be flexible enough so it could produce the right kind of illumination for both daytime and night effects, using the same source.

Here my gaffer Vic Jones put his inventive abilities to work in solving the problem. He saw there were two requisites for a suitable lighting source: it must be economical compared to other lighting methods that have been tried, and it must afford selective illumination control over the entire backing area.

What Jones developed was a huge mobile framework incorporating seventy individual light units. It can be moved close to the backing to throw *controlled* illumination from the rear. I have emphasized the word *controlled* because the method is the only one that will give selective control of light intensity for any section of the backing area.

The two photos on this page show the illuminating frame and its relation to the backing. The wooden framework is 20 by 20 feet in size and is fitted with fourteen parallel ribs or tiers, each carrying five R-2 photofloods in fixed sockets. Each tier is mounted so it may be pivoted to swing the lamps up or down, as desired. In addition, the wiring of each tier is independent of the others, leading to dimmer-bank controls. Thus, by means of dimming and by pivoting the lamps so as to concentrate the directional beams of light as desired, or by "killing" certain lamps in the assembly, lighting of the entire backing may be carefully controlled. One corner of the backing or a spot in the center, for example, may be made brighter than the rest, or certain areas or details may be emphasized or subdued by the selective lighting control this method affords.

With this lighting method we were able to enhance the startling realistic detail of the backings, especially when the set was lit for a dusk or night shot. The photo on opposite page shows one of the major backings used in the picture. This backing reproduces in infinte detail the across-the-street scene as viewed from the veranda of the home in which much of the story action takes place. In using it for a dusk shot, we subdued illumination at the top and toned down the foreground. For the full night effect, the backing was completely masked at the rear except for openings for windows, and illuminated from the front. Through selective lighting control, we were able to vary the intensity of light in the windows of different parts of the house, thus lending further authenticity to the scene.

An important development of this new lighting system is the method Jones devised for charting the lighting used with the backings in each scene, so that in event retakes were necessary, we would be able to match the lighting exactly. The charts showed the complete frame and each lamp thereon. The units that were extinguished, dimmed or altered in any way

(Continued on Page 417)



STANDING beside the unique lighting unit, which he designed especially for use with M. B. Paul photo backings, is Vic Jones of Samuel Goldwyn Studio. Framework consists of 14 pivoting tiers of five lights each. Each tier is controlled through dimmer bank, permitting selective intensity of lighting for any given area of the backing.



AUTHOR Lee Garmes, A.S.C., who photographed "With All My Love," and Jones discuss light-meter readings made of the backing. This step precedes adjustment of the voltage or angle of various lamps in the frame to obtain the desired lighting pattern.



WILLIAM MELLOR, A.S.C., chatting here with Marjorie Reynolds, is typical of the younger generation of cinematographers who got their start in studio camera departments, later working up to assistants and ultimately to full fledged directors of photography.



VICTOR MILNER, A.S.C. (right), while working as a "nickelodeon" projectionist in 1910, determined to become a motion picture cameraman. He rose steadily, becoming one of Hollywood's leading directors of photography, filming many of Cecil B. DeMille's hit pictures.

CASE HISTORIES

Ever wonder how Hollywood cameramen got their start?

By FREDERICK FOSTER

How did Hollywood's directors of photography get their start? How did they learn the business of motion picture photography? Do similar opportunities exist today? These are questions readers frequently ask the editor of American Cinematographer.

The case histories of most of the leaders in the profession show that few if any of them boast a diploma from a school of photography. Nearly all of Hollywood's motion picture cameramen got into the business without benefit of a graduate course in cinematography. In Hollywood's formative years there was but one school for those ambitious to shoot movies for the studios. That was the school of experience inside studio gates.

Some of our best cinematographers came into the business in the natural course of hunting for a job. Starting in some menial studio chore, they utimately found interest in camera work. Others, with earlier and more pronounced leanings for creative work, deliberately sought a career in motion picture photography and planned their contacts accordingly. It can be said, however, that all who ultimately found successful careers as directors of photography were probably destined to do so by virtue of their innate artistic and creative abilities. Hardly any two of them have come up the ladder of success the same way. Let us examine the case histories of just a few of them:



ARTHUR MILLER, A.S.C., in the business 40 years, got his start as lab assistant back in 1909. Here, filmstar Ann Sheridan presents him an "Oscar" — his third — for photography of "Anna And King Of Siam.

Russell Harlan, A.S.C., started in the film business as a laboratory assistant for Paramount Pictures when that company bore the name of Famous Players Lasky. After a period of apprenticeship, Russ, who is one of the industry's younger directors of photography, became an assistant cameraman. In the intervening years, Russ also worked as an actor, and a stunt man in between camera assignments.

Because of his familiarity with the lore of the old west, Harlan naturally gravitated toward photographing westerns and other outdoor epics—mostly for Paramount and Harry Sherman. Last March Harlan received the Look Magazine Annual Movie Award for his photography of "Red River." Today, Harlan is considered one of the foremost cinematographers of western stories. As a former cowboy in Arizona and Texas,

(Continued on Page 412)

THIS IS THE DIRECTOR OF PHOTOGRAPHY

"The Cinematographer," informative short subject sponsored by the Academy, shows important role of the cameraman in the production of entertainment movies.

By WARREN GARIN

MOVIEGOERS who'd like to see how movies are made on Hollywood sound stages are getting their wish in the series of industry short subjects currently being shown in theatres throughout the nation. Those who are especially interested in how a major feature is photographed will look forward to seeing "The Cinematographer" when it comes to their local theatre. This is probably one of the most interesting films in the series and depicts the director of photography's role in the production of a motion picture.

It is certain to make the work of the cinematographer more widely understood. Where heretofore the moviegoer rarely has given thought to *how* a picture story is put on film and thence brought to him on the theatre screen, "The Cinematographer" will create greater appreciation for the contribution the director of photography makes in the production in John Public's cinema fare.

Because "The Cinematographer" is a picture most of our readers will want to see more than once, we have no compunctions about describing its content here or for giving excerpts of the descriptive narration. The opening of the picture could not have been more wisely planned. It opens on a view of the Mitchell studio camera, then dissolves to a closeup of the inner workings of the camera, giving the viewer probably his first close-up look at the instrument which is used in photographing theatrical movies.

The director of photography — the man who guides this instrument — is then introduced by the narrator, who adds, ". . . his importance and influence are felt from the moment a motion picture begins to take shape until it is completed. It is on the basis of what his camera can and cannot do that screenplays are written."

Karl Struss, A.S.C., one of the industry's top cinematographers, was chosen by his associates in the American Society of Cinematographers to portray the role of the director of photography in this important documentary that is to reveal

(Continued on Page 421)







THESE frame enlargement from the industry short subject, "The Cinematographer," show some of the interesting procedures followed by the cameraman in photographing a feature film. Karl Struss, A.S.C., shown in these scenes, turned actor for this informative film, playing role of the cinematographer—a role he has played in real life for over 30 years.



SIGNALLING "camera left" is Assistant cameraman Harry Webb, co-author of new communication system.



BILL McGARRY, Goldwyn assistant director, indicates to camera crew to "roll camera," using new signal system.



DIRECTOR David Miller signals to cast to begin action as the camera rolls to taking speed for scene at Goldwyn Studio.

Signal System

New method of visual communication boon to production crews shooting on location.

By LEIGH ALLEN

ARM SIGNALS will replace shouts and often-confusing "high signs" commonly employed in relaying instructions between camera crew and those at point of the action on long shot location takes, if the plan worked out recently for a uniform code of arm signals is adopted by Hollywood studios.

The system is already standard practice at the Goldwyn studio. It was conceived by assistant cameraman Harry Webb and assistant director Bill McGarry during the location filming of Samuel Goldwyn's "With All My Love" on a wind-swept stretch of Malibu Beach. Here surf and wind combined to drown out instructions to sound and camera crews even when McGarry used a megaphone.

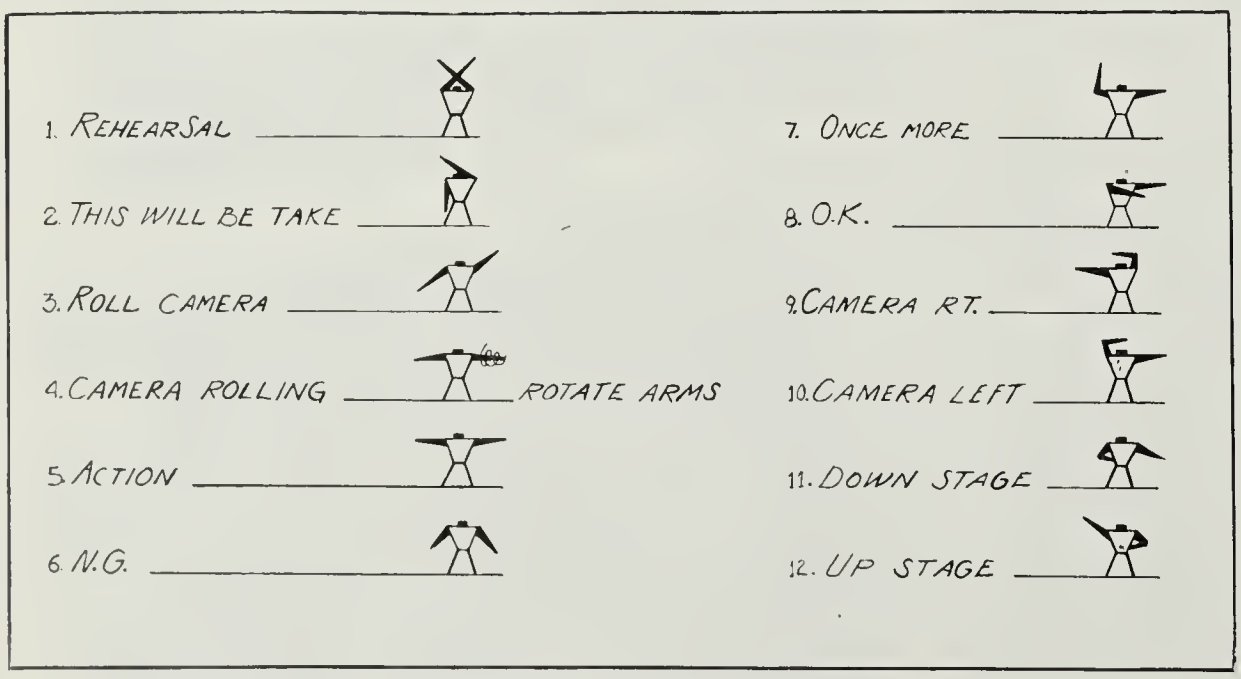


CHART shows code of twelve signals put into use at Goldwyn studio for communicating instructions to crew and cast. Although system was established for use on location filming, it has been found equally valuable when shooting on large sets indoors. It probably will be adopted as standard practice by the major studios.

The signals, as finally worked out, are similar to the semaphore system but are used without flags. They are twelve in number and have been planned to prevent any possible confusion. Regardless from what angle the signals are seen or sent, the meaning cannot be misinterpreted by anyone fully familiar with them.

The twelve signals are illustrated in the chart on this page. The person using them places his arms in the positions shown to relay an instruction or indicate a condition prevailing, such as "camera rolling," "N.G.", etc.

The director calls for a rehearsal of action to be played for a long shot by crossing his arms directly overhead. Or he indicates that it will be a "take" by placing his arms in the position shown at 2. "Action" is indicated by assuming position for signal No. 5.

Where the director is close to the scene of action and his problem is to relay instructions to the camera crew some distance away, he uses signal No. 3 to start the camera, No. 7 to indicate a retake, or No. 8 to inform cameraman the take is O.K.

The cameraman indicates camera is rolling by rotating his outstretched arms, as shown in signal No. 4, or, by using

(Continued on Page 417)

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And you'll be delighted to discover the amazing tonal range possible with this wide-latitude film. Try it and see. **Ansco, Binghamton, New York.** A Division of General Aniline & Film Corporation. *"From Research to Reality!"*

TIPS ON TITLES Creating original movie titles becomes great fun when kids are involved. Try cutting out the letters of the title and stringing them together. Then have the child walk into the scene and hold the title up in front of the camera.

ASK FOR

Ansco

8 and 16 mm
TRIPLE S PAN FILM



CINEMATOGRAPHER Tom Tutwiler, A.S.C., explains to cinefilmer Willard Salisbury how certain scenes demand that the camera be raised or lowered in order to present more forcefully the idea to be conveyed.



SKILLFUL angling of his camera, Tutwiler points out further, will enable Salisbury to control background and foreground in some scenes, and eliminate undesirable features that might prove distracting.

Suit The Angle To The Scene

By THOMAS TUTWILER, A.S.C.

THE VIEW-FINDER of a motion picture camera is nothing more than a frame through which the spectator is allowed to view a constantly changing pattern of visual composition. The cameraman uses his view-finder selectively—choosing one by one various segments of an overall situation and presenting them in sequence so that they convey a particular idea to the audience. The audience is allowed to see only that which the movie maker chooses to funnel through his lens and the black frame surrounding the tiny bits of film which will be projected to fill a screen.

The placement of the camera in relation to the physical elements of the scene and the action taking place within it, creates a biased impression of that scene and action. In other words, the cameraman places his camera to assume a preconceived point of view in each separate scene. The vantage point or camera angle assumed can greatly influence audience reaction to a particular scene. The adept movie maker realizes this fact, and makes full use of it. The basic tenet of his approach to filming is: Suit the angle to the scene.

At first glance, this phrase seems clear enough, and one might assume that it would be a simple matter to select a proper angle for recording a specific scene. Actually, however, this fundamental rule is one which even some professional cinematographers have found difficult to master. It is the kind of thing that requires a kind of cinematic "sixth sense." Lacking this natural feel for the right camera angle, the novice cameraman will do well to study the photography of Hollywood's better films, because these pictures are photographed by men who have spent a lifetime learning to suit the angle to the scene.

Camera angles in a well-conceived film are pre-planned one by one to fit the overall story pattern of the picture, as well as the separate demands of each individual scene. Actually, each film has its own general point of view. For example, the intimate, romantic screen story is filmed as if the camera were a very close bystander to the action. In contrast, the epic or super-saga type of movie requires that the camera assume an almost omniscient point of view, backing far off to show great sweeps of scenery and action. The cameraman is required to form his general concept of the point of view from which the action is to be observed by the audience. He

(Continued on Page 410)



"DEED TO HAPPINESS," quarter-hour 16mm. color and sound film produced by Cincinnati Movie Club, is example of the type of contribution amateur movie groups can make in the public interest. Here the author and a camera assistant prepare to shoot interior scene for picture in nursing school clubroom. Of the 93 scenes, 73 per cent were interiors.

MOVIE CLUB

AFTER THE FIRST few meetings of our newly-formed Cincinnati Movie Club it became apparent that the organization would be short-lived if progressive activities were not included in our plans. Our initial programs comprised screenings of members' personal travelogues, flower garden pictures, movies of "Our Kids," and commercially produced promotion films. Although we soon became tired of this fare we did learn by doing, so to speak, and many "rank amateurs" were able to improve their technique in direct proportion to their enthusiasm and efforts. Some of our meetings were enlivened by guest speakers whose films testified to their profficiency in movie making. We rapidly realized, however, that in order to hold the long term interest of club members we needed some kind of group activity.

Several Cincinnati organizations offered us the dubious honor of devoting our talents to the laborious production of a motion picture for *their* "glory." Naturally these offers were tactfully "tabled." We were definitely interested in a club production but only under the following conditions: (1) it would include a relatively large group of people in the production unit, (2) permit complete supervision by our "planning committee" over all details including script, techniques involved, shooting locations, etc., (3) production to offer a chance for our club members to observe and learn more about difficult filming problems, and (4) the film must be a definite humanitarian service to our community.

An idea was eventually presented by one of our members which offered a challenge to our collective abilities and yet subscribed to all of the aforementioned conditions. The Southwestern Division of the Ohio Hospital Association had found itself in possession of approximately $350.00—surplus from the previous year's activities, and the money was not earmarked for any especially urgent need. The proposition was advanced that the Cincinnati Movie Club produce a nurse recruiting color and sound film, using this money for essentials such as Kodachrome raw film stock, lamp bulbs, sound recording tape and laboratory services. Aim of the picture was to promote interest in a nursing career among high school girls and thus tend to alleviate the shortage of nurses in hospitals of Southwestern Ohio. After several club discussions on the tentative project we collectively decided to "go all out" for this humanitarian service.

Our club roster was inventoried for special abilities and for those who possessed tangible experience adaptable to the production of a color-sound film. Each member who could contribute in any way toward the final result was asked to participate. Thirteen members agreed to devote their unlimited time and services to the production. Our film unit was thereby formed and duties assigned to each person therein.

A tentative script was prepared, and after the necessary research by our writer member, our production planning began. The planning meetings were held, in each case, at one of the member's home at a time suitable for maximum unit attendance. At one of these meetings we screen tested our tentative star who proved to be more talented and photogenic than we had dared hope. Our star had just recently graduated from a local school of nursing and quite naturally therefore entered wholeheartedly into the spirit of the idea.

The plot of the film begins by emphasizing a little girl's early interest in mothering her doll and her gracious interest



LOUIS BARNETT used two Magnecorder tape recorders to record and edit the sound track for "Deed To Happiness." Finished tape sound track was then sent to laboratory for dubbing on the picture film.

FILMING PROJECT

By LOUIS W. BARNETT
Cincinnati Movie Club

Cincinnati movie amateurs pool talents and equipment to produce nurse-recruiting film for hospital.

in helping others in distress as she grows up. As the story progresses, the film shows the girl as a high school senior, and through flashback technique her student nursing days evolve as milestones in her projected visionary future. The girl envisions herself signing up for her "career," receiving her letter of acceptance, packing at home in preparation for her departure, arriving at the nursing school and being greeted by her "big sister" at the hospital of her choice.

It runs the gamut of classroom sessions . . . not mere book learning and recitation . . . but actually learning by doing. We take the nursing student through microbiology, chemistry, nursery, X-ray, and operating room technique. For the scenes of the operation we actually photographed a childbirth by Caesarian section delivery. One of our club members is a prominent obstetrician and gynecologist.

The operation scenes, being highly dramatic in themselves, could not suggest pain, fright or blood. Therefore when they were filmed we were quite careful they didn't contain anything which might be objectionable or disgusting, or tend to frighten away our potential nursing aspirants. The scenes especially show the nurse's importance in her role as the surgeon's second set of hands, depicting how a human life may hang in the balance while the nurse hands the proper instrument to the surgeon at the precise moment he needs or calls for it.

The glamorous element in the life of a student nurse isn't neglected. She entertains her boy friend, she plays basketball, tennis, ping pong, attends tea parties and sings in the glee club. Her living quarters are pictured, the surroundings shown and the great variety of delicious and nourishing food displayed as she fills her tray in the nursing school cafeteria at meal time.

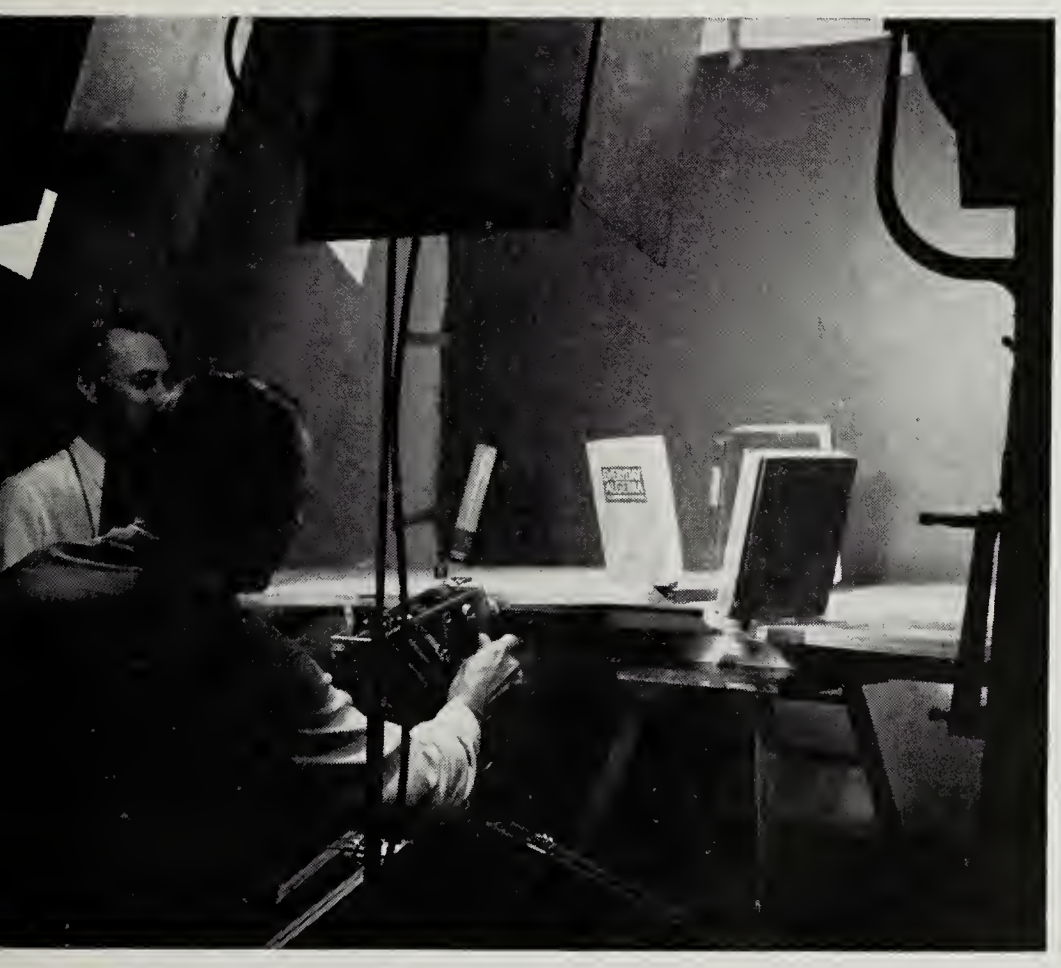
The flashback treatment goes on to show her graduation, the candlelight ceremony and the presentation of her diploma. She then can devote her talents to one of the many channels, and included are the railway stewardess, airline stewardess, hospital nurse supervisor and as the grand climax of all, her role in society as wife and mother.

The flashback then returns the star to her "real" surroundings just as she has actually decided to make nursing her career and with her face full screen size she says, "I want to be a nurse!"

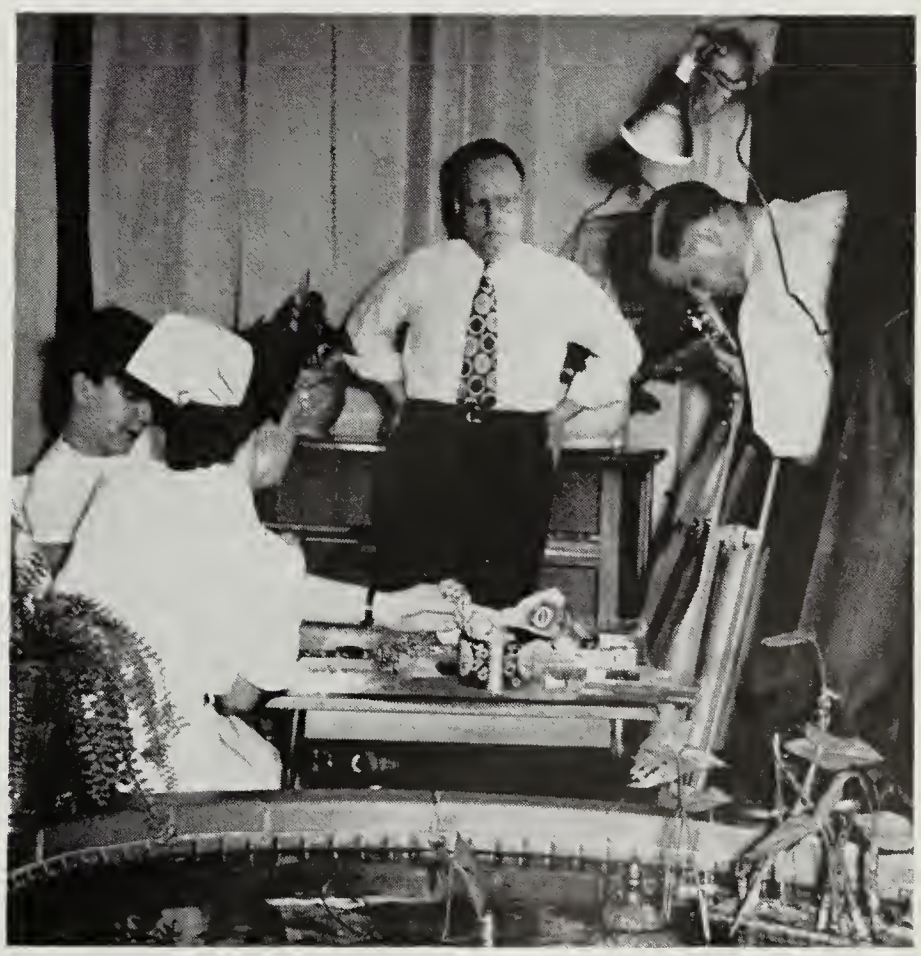
In planning the picture, various individuals, nursing schools, hospitals and business firms were contacted for filming locations, acting personnel, and power availability at each location was checked. Everyone contacted immediately offered 100% cooperation and as a result our invasion of hospital properties and other locations was a pleasant excursion in each instance.

Equipment was furnished entirely by the club members. We used an Eastman Cine Special camera and a Professional Jr. tripod plus an assortment of lenses from wide angle to

(Continued on Page 412)



TYPICAL example of amateur ingenuity displayed by members of production unit is this setup for shooting a montage of textbooks mounted on a double turntable. On screen, books appear to zoom toward camera, one after the other.



NURSE'S role in occupational therapy is emphasized in this sequence being photographed by Cincinnati Movie Club camera crew. Club exposed 2500 feet of 16mm. Kodachrome in 25 picture taking sessions.

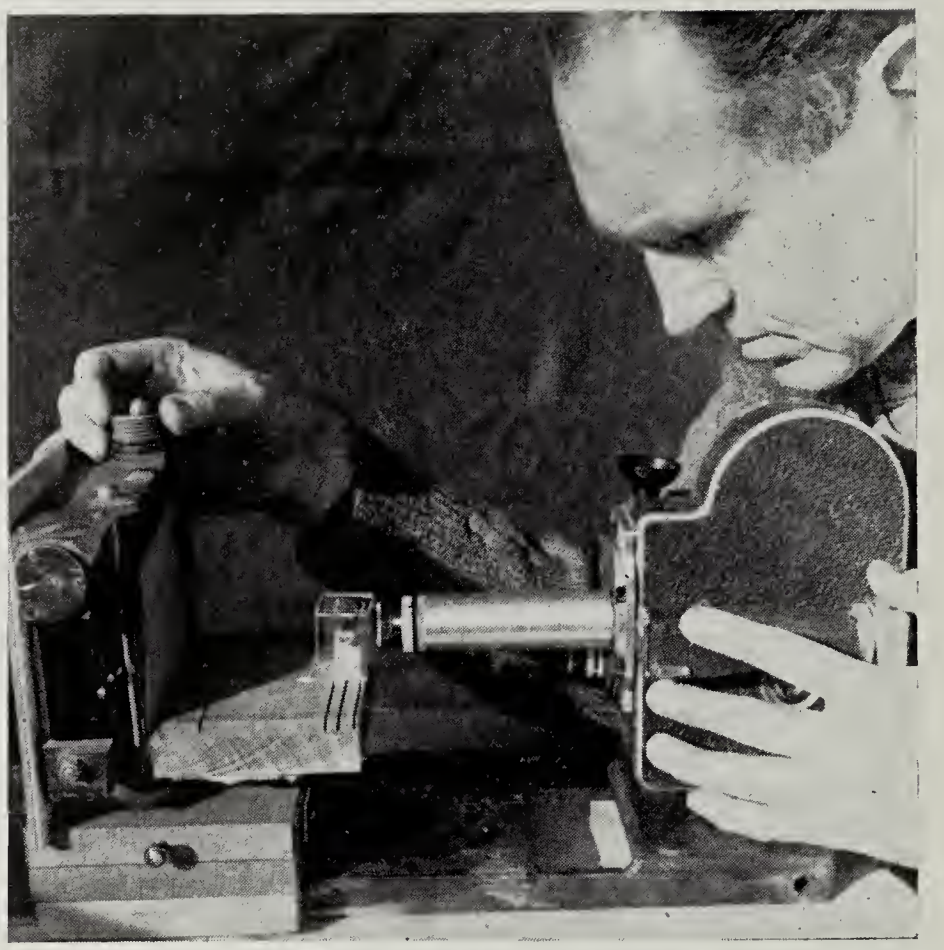
WARWICK TOMPKINS, of Los Angeles, is a typical progressive 16mm. cine cameraist who has never let the fact there are several hundred others struggling for success in the same field, deter him from his goal to make financially successful as well as scholastically acceptable 16mm. educational films.

Unlike so many of his struggling contemporaries, Tompkins first explored the *immediate* needs of educators in the Los Angeles school system for instructional films, then went out and filmed them as *they* wanted them filmed.

Despite the typical amateur cine equipment which he uses in shooting his pictures, his projects are far from amateur in scope and results. Among his most recent films are one showing the operation of a typical city fire department and two on the life habits of the Harvester Ant.

In the January, 1949, issue of American Cinematographer, Tompkins described how, by fitting his 16mm. Bolex camera with extension tubes and devising a miniature stage to keep his tiny subjects within camera range, he completed the first of his color films on ants.

In this issue he tells how, after purchasing two Queen harvester ants, one his "star" and the other her "standin," he went on to complete the sequel to the first film, recording the complete life cycle of the Harvester Ant. Rare microscopic shots achieved through use of simple homemade gadgets enabled him to obtain some startling closeups of the queen laying her eggs, the eggs hatching and the young growing to maturity. His achievement should be an inspiration to other 16mm. cameraists, both amateur and professional.—EDITOR.



WARWICK TOMPKINS solved problem of keeping the subject of his microscopic movie—a Queen ant—within range of his lens by confining it in a glass cubicle scarcely an inch square. An extension tube on his Bolex enabled him to photograph her action with high magnification.

Fifteen Dollar Movie Star

Weighing 1/9000th of an ounce, she's featured in a 16mm. microscopic movie that involved some new and highly interesting cinematographic methods.

By WARWICK TOMPKINS

CAMERAMEN are akin to fishermen in that their finest shots often "get away." The most interesting thing I observed while making films on Harvester Ants remains unphotographed; nor do I know of any means by which such a scene could be made with equipment now available. The core of the problem arises from the virtual immobility of the camera in micro-photography; the action must be made to occur in a predetermined and very small area where focal depth is frequently measured literally in hundredths of an inch.

Using a ¼-inch extension tube with my f/1.4 Zeiss Biotar, depth of focus was approximately a half-inch!

The motions of insects are fast, erratic and unpredictable, eliminating the possibility of following them by panning. So I never got the picture of my Queen ant in the actual act of laying her nearly invisible, extremely-fragile eggs.

Since a harvester ant weighs about 1/9000th of an ounce and I paid $15.00 each for my prized and essential Queens, I believe my film project established a budget figure unique even for Hollywood. My leading lady and her stand-in cost me at the rate of $2,000,000 per pound! Anyone can understand that I treasured them highly.

One of these Queens—and in this I was extremely fortunate—was producing her first generation. Since there is no one but the Queen to care for the first eggs and larvae which she produces, her first offspring are stunted by lack of food. They attain a growth of about one-third the size of their mother.

The night I got the Queen and her thirty or forty stunted children I placed them in a flat, artificial ant colony divided by a partition. One section was covered, to afford the Queen the darkness and privacy she required. In the other section, reached through a single small hole in the partition, there was a layer of earth perhaps an inch deep. In the hope that the Queen would remain in her chamber and that I soon might find eggs and young near her, I put no earth in her compartment.

Ants adjust quickly to new surroundings, and three hours after my Queen and her brood were settled in their new home the Queen started to lay. It was a rare scene to watch. She was surrounded by her workers and as the tiny and infinitely fragile eggs emerged from her body the workers gently seized them in their mandibles and scurried away. I worked late that night readying camera and lights so I could capture this rare scene first thing the next morning. But while I slept the ants tricked me. They had led their Queen from her chamber and concealed her in the soil.

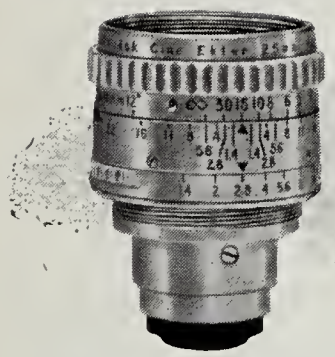
I carefully excavated and captured the runaway. Then I left only a sprinkling of sand in the colony. "They won't hide

(Continued on Page 418)

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Skillfully designed and constructed . . . optically and mechanically precise . . . the lenses are a match for the truly fine camera they serve.

One of a series of pages which help to explain why Cine-Kodak Special II Camera is properly known as the world's most versatile 16mm. motion-picture camera.

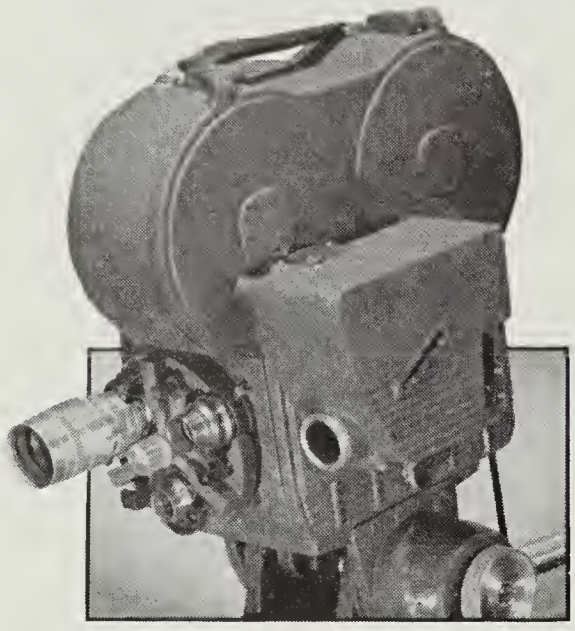
Superb 16mm. motion-picture camera with the controls for special effects integral with the basic model. Fully capable for precision movie making just as it's supplied . . . and further adaptable through accessories to meet the specialized requirements of every field served by 16mm. motion pictures.

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SUIT THE ANGLE TO THE SCENE

(Continued from Page 405)

then fits each scene into this general pattern, making adjustments for the dramatic requirements of that separate scene.

While this general approach implies a unity of photographic treatment, however, it does not demand that that treatment be monotonous. Variety of camera angle is necessary if audience interest is to be sustained. The best way to insure such variety as well as the appropriate angle for each scene is to make a sketch for each separate setup indicated in the script. The sketches need not be artistic masterpieces, but they should suggest the basic composition of the scene and the vantage point of the camera in relation to the scenic elements.

In a realistic situation, we usually view a scene from that vantage point which we call the "eye level." This vantage point, ranging anywhere from four to six feet above the ground, gives us a normal if sometimes undramatic perspective. Therefore, in the more conventional sequences of a motion picture, we may logically place our camera at eye level and know that the resultant footage will present a natural appraisal of the situation. However, certain scenes demand that the camera be raised or lowered in order to present more forcefully the idea which is to be conveyed.

The low angle is considered an especially dramatic approach; its psychological effect on the audience is quite definite, in that it exaggerates the height of people or set elements in the scene. The elements are made to loom importantly into the composition, thus becoming visually dominant. The low angle is especially effective in scripts based on mystery or violence, since it naturally creates a certain force and suspense. Many cinematographers place their camera either on the ground or actually below ground level, in order to build up this feeling of power. The audience is dominated psychologically by what it is made to view from the low camera angle.

By way of contrast, the high angle places the spectator in a position from which he can look down upon the action of the players and the locale in which they move. The audience thereby is enabled to enjoy a vicarious sense of superiority, an almost godlike omniscience. Aside from its obvious variety value, then, the high angle can be said to be most effective in sequences where, for dramatic effect, it is necessary to subordinate the characters involved in the action.

Camera angle becomes especially tricky but effective when combined with camera movement. The added element of fluidity gives the cameraman greater scope but at the same time it requires more careful pre-planning. For example, the camera angle may seem exactly right for the action occurring at the beginning of a scene, but when the camera has panned or tilted to follow the progressive sweep of the action, the final composition may be totally unsatisfactory. The compromise is reached by planning the beginning and final compositions desired, and by plotting the course which the moving camera must follow to progress from the one to the other while still following the action that occurs in between. The fluid camera demands not merely one camera angle for each scene, but several, laced together by smooth camera movement.

The subjective approach to filming is a special technique which can be very effective when used to put across certain specialized impressions on the screen. The subjective camera assumes the point of view of one of the characters within the scene, so that the audience is allowed to see the action as it would appear through the eyes of that character. At least one Hollywood photoplay, Robert Montgomery's "Lady In The Lake," utilized this technique exclusively to tell its story. Many other films have relied upon subjective camera treatment in specific sequences or scenes, to put the audience in the place of one of the characters. The problem is not merely one of placing the camera where the eyes of the character would be; it involves also the responsibility of tying this scene or sequence neatly into the context of conventionally photographed scenes which precede and follow it. As is the case with most unusual techniques, the subjective approach loses its force when used indiscriminately or too frequently. It should be reserved for situations which definitely demand a special effect.

The wide angle lens, because of its peculiar characteristic of foreshortening, provides the cameraman with a special tool for achieving unusual and dramatic camera angles. Exaggerated perspective is an innate characteristic of the wide angle lens. That which appears in the foreground of a scene filmed with the wide angle lens seems much larger in proportion to the more distant elements than it would be if viewed normally. In this way, the cameraman can emphasize a particular scenic element for maximum dramatic effect. Thus, audience attention is focused sharply on a specific object or player. From the purely compositional standpoint, the wide angle lens is effective in that it emphasizes the converg-

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Competition open to members of amateur movie clubs within the United States. Non-movie-club-members may also compete by submitting films through their local amateur movie club. (See rules below.)



ARTHUR MILLER, a.s.c.—Three-time Academy Award winner: "How Green Was My Valley" ('41), "Song of Bernadette" ('43), "Anna And King Of Siam" ('46). Currently shooting "The Gun Fighter" at 20th Century-Fox, starring Gregory Peck, Helen Westcott, Jean Parker and Skip Homeier.



CHARLES G. CLARKE, a.s.c.—President of A.S.C. Author of numerous articles on amateur movie making. Photographed "Captain From Castile," nominated for Academy Award in 1938. Just finished shooting "Two Corridors East," story of Berlin air lift, in Germany for Twentieth Century-Fox.



HAL MOHR, a.s.c.—Photographed many of Universal-International's hit pictures. Has twice won Academy Awards for cinematographic achievement: "A Midsummer Night's Dream" ('35) and "The Phantom Of The Opera ('43).



CHARLES ROSHER, a.s.c.—Winner of two "Oscars" for photography of "Sunrise" ('28) and "The Yearling" ('46). One of MGM's ace directors of photography, is also one of founders of the A.S.C. Currently shooting "Annie Get Your Gun" at MGM. Specialty is Technicolor Photography.



ERNEST HALLER, a.s.c.—Won Academy Award in 1939 for joint photography on "Gone With The Wind." One of Warner Brothers' ace cameramen, filmed such outstanding pictures as "A Stolen Life," "Mildred Pierce," "Saratoga Trunk." Currently shooting "The Hawk And The Arrow."

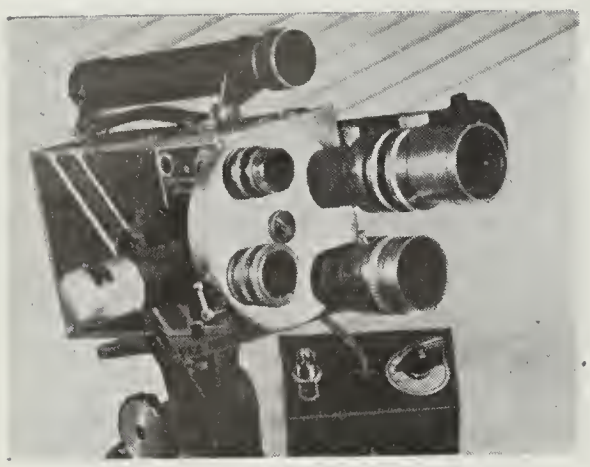


RAY RENNAHAN, a.s.c.—A two-time Academy Award winner for joint photography on "Gone With The Wind" ('39), "Blood And Sand" ('41). One of Technicolor Corporation's ace directors of color photography. Has just completed filming "The White Tower," starring Glenn Ford and Valli.

RULES

- Each entry must be wholly amateur produced, except for any titles and film laboratory work. Any sound accompaniment must be recorded exclusively by the entrant or club submitting the film.
- Competition open to members of amateur movie clubs within the U.S. Clubs will evaluate and enter the best 8mm. and best 16mm. film completed by a member since January 1, 1948. Individuals (non-club-members) may also compete by submitting films to their local amateur movie club for entry at discretion of the club. (Refer to your local camera store for name and address of local club, or write the Editor.)
- Amateur movie clubs may enter films not to exceed 4, as follows:
  - Best 8 mm. member-made film.
  - Best 16 mm. member-made film.
  - Best 8mm. non-member film.
  - Best 16mm. non-member film.
- Film length limits: 16mm.—800 feet. 8mm.—400 feet.
- Entry Fee: $1.00 for each subject submitted.
- Each film reel as well as its container must be plainly and securely labeled with owner's name and address **plus** name and address of club entering the film.
- All films must be shipped on reels and in cans to contest headquarters fully prepaid. Entry blank and fee should be mailed in advance of film. Films will be returned directly to owner via Express collect, fully insured. **Be sure** to indicate value on your entry blank for which films are to be insured.
- Please indicate make and model of camera and the lenses used in making your picture, also brand of film used. This information will have no bearing on evaluation of films, but is desired by judges for reference.
- Do not submit any films before **January 1, 1950.** Send only your entry blank which may be obtained by writing The Editor, American Cinematographer, 1782 No. Orange Drive, Hollywood, Calif.

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ing lines of a setting and also permits artistic framing of the scene with foreground objects. The wide angle lens can do much to lend force to otherwise ordinary setups. But here again a word of caution is in order: if the wide angle lens is used too frequently, its exaggerated punch becomes commonplace and the force of the technique is dissipated.

The selection of the proper camera angle for a scene amounts to more than just setting the tripod down in a likely spot. It should begin with the script and follow through to the careful framing of action and setting in the locale itself. The intelligent cameraman, be he novice or professional, can scarcely go far wrong if he will remember to "Suit the angle to the scene."

MOVIE CLUB FILMING PROJECT

(Continued from Page 407)

four inch telephoto. Our lighting equipment consisted of a 750 watt Keg-lite, two Mogul photofloods in 24" Morse reflectors, two 1000-watt movie floods, a 2000-watt BM fresnel spot and numerous number two photofloods with clamps and stands. Editing equipment was supplied by one of the members who also offered his services to cut and edit the picture and match the accepted "takes" to the sound track.

Two of our members had extensive experience in photographing Kodachrome interiors. Another member had similar experience with shooting Kodachrome exteriors. These three men shot a total of 2500 feet of Kodachrome stock in 25 picture taking sessions. The total number of 93 scenes evolved into a picture running 15 minutes and thirty seconds. We had 49 get-togethers including planning and shooting sessions. Production stills were made during these sessions by still another member of the club; 73% of the scenes were interiors. One member of the club is a commercial artist in an advertising department of a local company and he was assigned all art and title work. Our club has one member who has worked as an electrician on several industrial motion pictures. Needless to say, he was an important member of the photo unit. Still another member is a studio engineer in WLW, the large local radio station. He arranged for the free use of the recording studio, and handled and directed the voice and music recording for the sound track. A local radio announcer graciously offered his services gratis as narrator and a local actress also supplied her talents for a voice montage and again at the end of the picture for a lip synch part.

The voice track was first recorded on tape, then played back through the system while music was added via disc recordings reproduced through dual turntable equipment. The whole was rerecorded magnetically on tape with a Magnecorder. Two turntables and two Magnecorders were necessary to achieve the desired results. The finished sound track on tape was then sent to a laboratory for dubbing onto film, which was then returned to us and the picture matched to the sound track. The picture was made up for the laboratory in A and B rolls with a cue sheet supplied to the laboratory for printing instructions. The sound track needed no alterations as it was perfectly executed and was complete in itself.

The first scenes of our production were taken April 12th, 1949 and final scenes shot July 30th, 1949. The hospital association supplied $365.00 which was the amount expended for necessities and we have estimated the commercial production value to be approximately $12,000.00.

CASE HISTORIES

(Continued from Page 400)

he acquired a substantial western background and a natural love for wild, western scenery which he so aptly translates to his cinematic compositions.

And while we're citing the younger generation of cinematographers, let's take a look at the history of Joseph LaShelle, A.S.C., who won an Academy Award in 1944 for his photography of "Laura." LaShelle was preparing to enter Stanford University to study electrical engineering in 1921 when he secured a summer vacation job at the old Lasky Laboratory in Hollywood. That ended his electrical engineering desires. Eventually he became superintendent of the printing room at the new Paramount laboratory.

"It was in 1925," he relates, "that Charles Clarke, A.S.C., decided that I ought to become a cameraman. He sold me completely on the idea and I quit my seventy-five dollar a week job and became Clarke's assistant." That was the beginning, for LaShelle, of a twenty year grind to reach the top. After three months as an assistant cameraman, he was advanced to second cameraman and left Paramount for the Metropolitan Studio.

"I was transferred from Metropolitan to Pathe shortly after that," says La-

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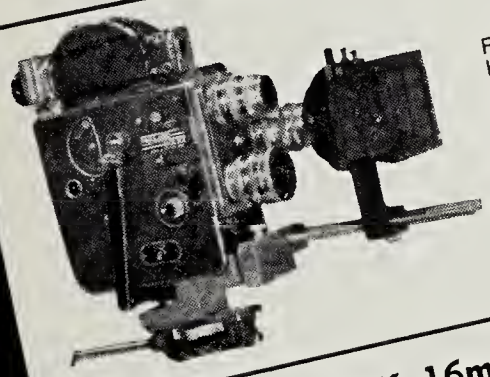
GEAR DRIVE

The head, made of Dow Metal magnesium, weighs but 5½ lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap-on metal cranks control pan and tilt action from both sides. Worm-driven gears are Gov't spec. bronze.



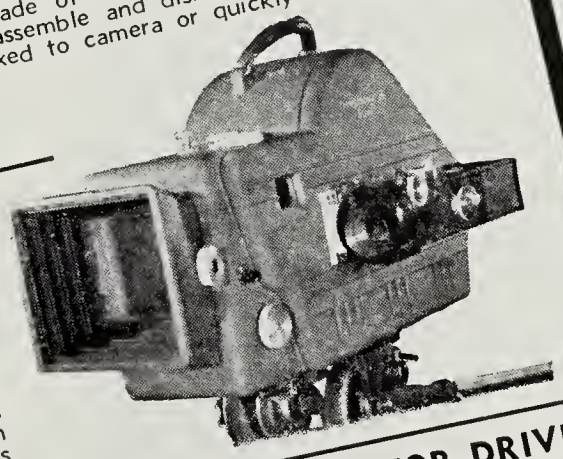
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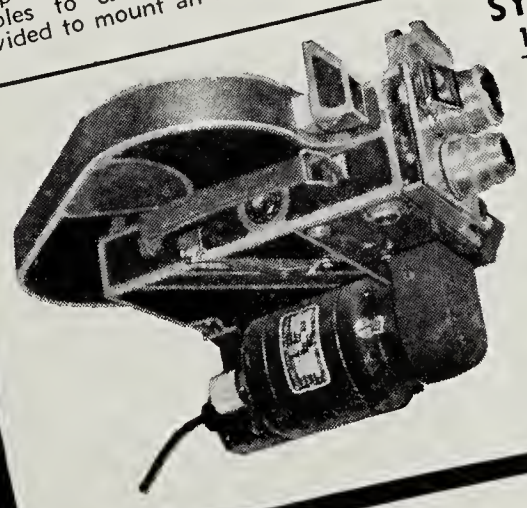
SYNCHRONOUS MOTOR DRIVE

110 Volt A. C., Single Phase, 60 Cycle

This motor will run in synchronization with either 16mm. or 35mm. sound recorders. It is provided with mounting platform which permits removal of magazine while camera remains mounted on motor.

Drive coupling attaches to single-frame shaft of camera and is mated to spring-steel drive arm of motor gear box. This assures that camera mechanism cannot be damaged if a film jam occurs as the spring steel arm drive will shear. This is easily replaced.

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Shelle, "and while at Pathe I began my long and happy association with Arthur Miller, A.S.C., now one of Fox's top directors of photography."

Soon afterward, both Miller and LaShelle moved to Twentieth Century-Fox studios. There LaShelle was operative cameraman for Miller on a long and noteworthy list of films. In due time, LaShelle was made a full-fledged director of photography. His first assignment was Fox's "Happy Land."

Working as assistant to a cinematographer has, in most cases, constituted the major step toward becoming a cinematographer—or director of photography, as first cameramen are termed today. William Mellor, A. S. C., probably the youngest of the industry's directors of photography, achieved his goal that way. Virtually the whole of his cinematic career has been spanned in the relatively few years since the advent of sound.

"I received about the best cinematographic schooling anyone could ever want," he says. "For six years I worked as operative cameraman with Victor Milner, A.S.C. and with Charles Lang, A.S.C., both top flight cinematographers at Paramount. Those fellows taught me things I could never have learned in any 'school' of photography."

Since Mellor was made a full fledged director of photography at Paramount, he has climbed steadily to the forefront, shooting everything from westerns and comedies, to Bing Crosby and Bob Hope musicals. Later he became Dorothy Lamour's favorite cameraman and has probably photographed more of her pictures than any other cinematographer.

We have to go back farther than William Mellor's time, however, to find some of the more exciting careers in cinematography—those of Edeson, Jackman, Clyde DeVinna, and others. Originally photography was only a hobby with DeVinna. When he started a four-year stretch in the Navy in 1909 as a radio man, DeVinna carried along his still camera to snap pictures. One day his ship received one of the old box-type motion picture cameras and because of his experience in photography, DeVinna was drafted to hand crank this new movie camera to record Navy maneuvers.

Following his discharge from the Navy, DeVinna had a brief interlude as a press photographer, both in San Francisco and Los Angeles. Later he went to the Ince studios where he planned and executed some of the first motion picture publicity ever attempted in the business. One day Ince's head motion picture cameraman was taken ill and DeVinna was sent out to take his place. Back at cinematography again, DeVinna remained at Inceville for several years. Sometime later Metro-Goldwyn-Mayer engaged De-

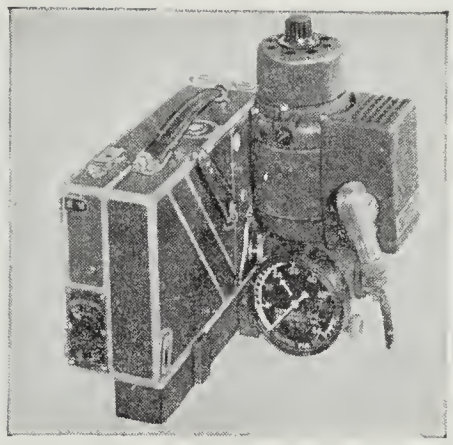
Vinna to handle a special photographic expedition to the Grand Canyon, and this resulted in a permanent connection with MGM that lasted 18 years.

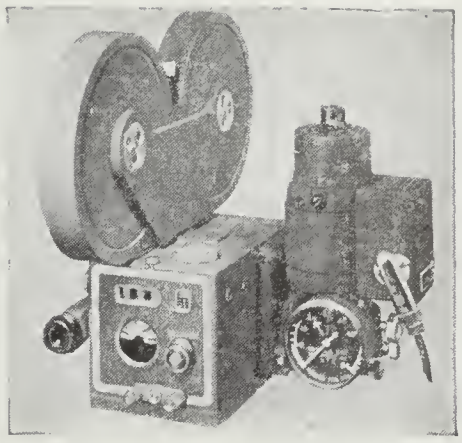
Victor Milner, A.S.C., is one of the very few directors of photography who early set out to be a motion picture cameraman. As a gangly, red-headed operator in a New York "nickelodeon," he was soon captivated by the kind of photography thrown on motion picture screens. But it was a particularly well-photographed travelogue of the ice-packs of Spitzbergen that crystalized his ambition to become a cameraman. The chance came when he got himself a job as an apprentice in the combined camera factory, laboratory and studio of the pioneer cine-engineer, Eberhard Schneider. Here Milner developed film, toned, tinted, edited and spliced it. Finally he mastered the art of operating a camera so thoroughly that his employer sent him out with a customer to photograph what was one of the first feature-length productions made in America—an independently produced version of "Hiawatha."

Milner next spent several years with another customer, circling the globe and making a series of travel films. Then followed a long and exciting engagement with Pathe News. Milner switched to theatrical movie making when his honeymoon in 1918 brought him to Hollywood. Here began the hard climb from assistant to the post of first cinematographer. It was during this climb upward that Milner had the good fortune to work with John Seitz, A.S.C., whom he credits to be the industry's greatest master of lighting. It was through Seitz that Milner acquired his vast knowledge of set lighting, knowledge that subsequently made him one of the most sought after cinematographers in Hollywood. While at Paramount, Milner was invariably Cecil B. DeMille's choice for cinematographer on every DeMille picture; and it was this happy combination of De Mille and Milner that won for Milner the coveted Academy Award for the photography of "Cleopatra" in 1933.

No chronicling of case histories would be complete without including that of Arthur Edeson, A.S.C., one of the real "young-old-timers" in the business. Edeson was a struggling portrait photographer in 1910 when he decided to apply for a job as studio portraitist and still cameraman at the old Eclair Studios in Fort Lee, New Jersey. While waiting in the studio's outer office to be interviewed, an assistant director came in, looked rapidly over the group of people waiting there and said, "I'll take you, and you, and you and you!" One of the chosen was Edeson and the next thing he knew he had been hired—as an *actor!*

This appealed to him, too, because he





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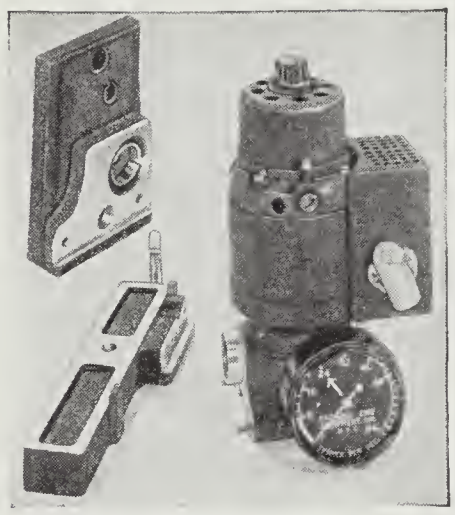
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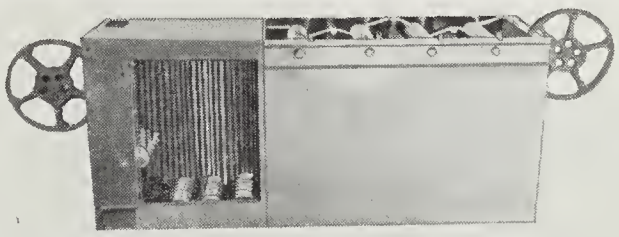
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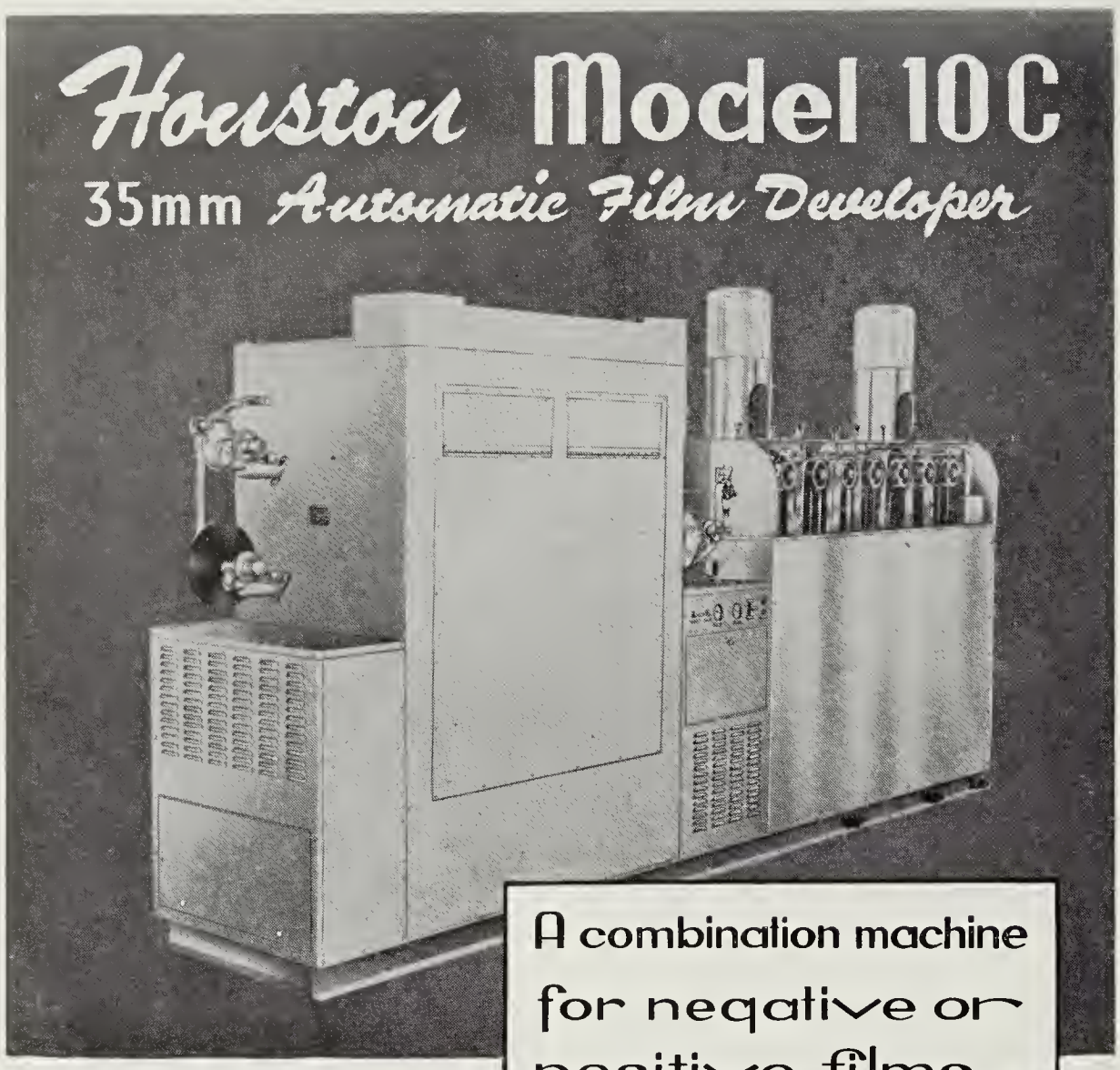
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had had some experienced as an actor on the stage, but had never considered going into the movies. So he remained an actor and made pictures on the side. One day his photos caught the eye of the studio's ace cameraman. "You're wasting your time," he told Edeson. "Switch over to the other side of the camera where your ability will mean more and you can be sure of a steadier and longer career." Edeson took his advice and when later one of the cameramen fell sick during a picture, Edeson was given the chance to complete it. He went on to become one of the industry's ace cinematographers, shooting most of Douglas Fairbanks, Sr's., silent films and later such well-remembered sound productions as "In Old Arizona," "All Quiet On The Western Front," and "Mutiny On The Bounty."

Some of Hollywood's best cinematographers got their start in the comedy field, with Mack Sennett and Hal Roach. Of these, probably Fred Jackman is best remembered and the most illustrious. Fred, too, *wanted* to be a motion picture cameraman, so he bought his own camera and set out to make pictures on his own. His "business headquarters" was a rickety film laboratory which occupied an old pioneer home atop Bunker Hill in downtown Los Angeles. One day a studio asked the lab to send them a cameraman, one who owned his own camera. Fred was sent out on the job. The director was Hal Roach.

The first day on the job, Roach approached Fred and said, confidentially, "This is the first picture I ever directed. So if you see me do anything wrong, its O.K. to tell me."

"Don't worry," Fred told him, "It's the first picture I ever photographed, too!"

What happened after that is movie history. Roach went on to become one of Hollywood's leading film producers while Jackman became Mack Sennett's chief cameraman. He is credited with creating more trick cinematic effects than any other early-day cameraman. Later he specialized in this field, ultimately setting up Warner Brothers' special effects department. Now retired, he manages the American Society of Cinematographers as the Society's Executive Vice-President.

The story of the beginning of cinematographic careers for many another A.S.C. member makes interesting reading, too, but limited space prevents our relating them all here. In a subsequent issue we shall tell you how such top cinematograpers as Charles Rosher, Arthur Miller, George Folsey and others got their start.

SIGNAL SYSTEM

(Continued from Page 402)

signal No. 8, that the camera recorded the action okay.

The system is a boon to crews shooting westerns out in the wide open spaces where winds drown out the voice, or echoes make verbal instructions unintelligible. Action at sea can be speeded up and made easier for all concerned by this visual method of relaying instructions between camera crew and the director and cast.

There'll be more orderly procedure, too, in shooting long shots inside sound stages of scenes of epic proportions.

The system can ease the strain for players, too, if they are conversant with all twelve signals and thus can take a cue in a long shot from the director standing near the camera some distance away.

Some may think that using a P.A. system or a walkie-talkie would prove more satisfactory. But there is always the problem when equipment is not immediately at hand the moment it's needed. You always have your arms.

Webb and McGarry are submitting the plan and code of signals to the Academy of Motion Picture Arts and Sciences for approval, with the ultimate goal of having the signals printed on small cards and distributed to all technical workers employed on motion picture sets, and to directors, their assistants and possibly to players, too. (Signals copyright 1949 McGarry-Webb.)

LIGHTING BACKINGS

(Continued from Page 399)

were noted on the chart, which was filed away with the script. Such charts also provided a guide to lighting the backings when they were used in subsequent camera setups on the same set.

The light source frame mounts on standard wall jacks and is easily wheeled into place on the set or removed after use. The backings, of course, are also mounted on vertical frames, and after use are rolled up and stored in the scene docks.

Two factors make these backings important in the production of motion pictures today, at least on the Goldwyn lot. First, this studio, which continues to follow the formula of "small aperture" photography introduced by the late Gregg Toland, demands flawless detail in all backings in order that the purpose of critical focus shall not be defeated. The other factor is the great economy in the lighting costs for illuminating backings by this method. Photoflood lamps,

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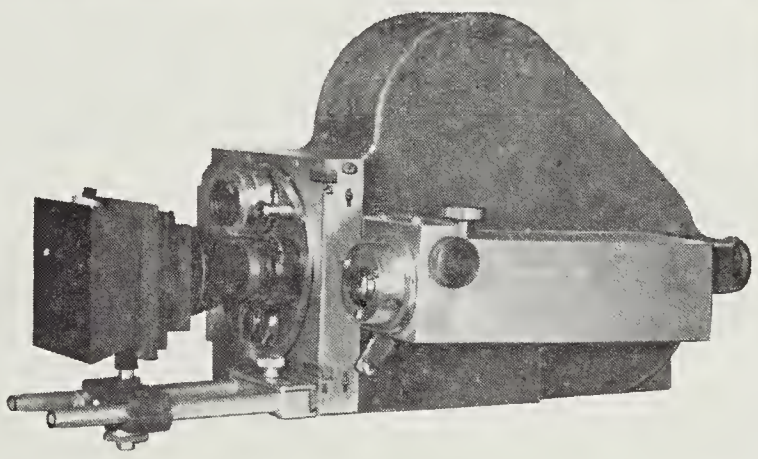
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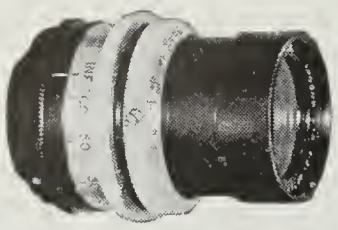
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which make up the source's seventy variable illuminating units, are relatively inexpensive and current consumption is considerably less than that of any other illuminating source which has been used to date with the backings.

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During production of "With All My Love," technical heads of other studios visited our sets for first hand observation of the backings and to study the new light source Jones devised for them. It is reported that the M. B. Paul backings shortly will be considered by the Research Council for general industry approval and it is likely this new lighting method will be made a part of the proposal. The development marks another important technical contribution to the industry by the men of Samuel Goldwyn studios, who have a long list of such contributions to their credit.

FIFTEEN DOLLAR MOVIE STAR

(Continued from Page 408)

you again, my lady!" I thought, and about that I was right. But the ants still bested me because the Queen abruptly ceased laying. I kept a close vigil for almost a week, convinced that time and her pregnancy would eventually force her to resume her function. Nothing happened. Perhaps, I thought, she would lay if there were a sanctuary for the eggs.

In the open section of the colony I arranged a little hill, surrounding it with a glass fence made of microscopic slides. At one corner there was left a very small crack which would admit the dwarfed workers but bar the Queen. The workers quickly found the crack, entered the stockade and went to work digging tunnels and shaping galleries. All of this time the Queen was in her chamber, possibly 15 inches away. I stood by, impatiently of course, with camera and lights ready to shoot at the first sign of action from the Queen.

Soon a delegation of five workers raced out of the stockade and surrounded the Queen. There was a second of turmoil too fast for me to follow and the Queen rolled over on her side, apparently dead. I'd like to know whether she was indeed unconscious or merely completely passive. The workers now picked her up, literally flung her across their backs and carried her back to the gap in the glass fence. Arriving there they undertook to get the motionless Queen through the slit. There was nothing gentle about their behavior, either. Willy-nilly, it was plain, the Queen was going through that crack and into the gallery prepared for her.

She might go through in small and distinctly separate pieces—but it was evident the pushers, pullers, haulers and jerkers who were ant-handling Her Majesty would get her though! Well, calculating what that Queen had cost me, and the improbability of getting a replacement for her essential role in my production, I finally stiffled my curiosity and opened the gate myself, watching with mingled relief and regret as the triumphant workers rushed their mother into the little hillock. There, as events proved, she again began to lay, living to play the lead in *Life-Cycle* and present me with the exquisite grouping of eggs seen in the film.

So, like other producer-directors before me, I was reduced to nature-faking, seeking artificially to reconstruct what I had seen that first evening. I isolated the Queen in a clean can with two workers who would feed her and care for her needs. In a few days close inspection revealed a cluster of eggs of pearl-like beauty.

For the next week I was busy at a task of the utmost improbability. I was seeking to learn how to up-end this indignant Queen with one hand, pick up a single egg with the other, stick the egg onto the minute tip of her wildly-wriggling royal abdomen and then get ant and egg into the pin-head field of view in front of my lens, while somehow I pushed the motor button and switched on my lights.

I didn't get *that* picture, either. But I learned to pick up the Queen in tweezers with the tongs wrapped in absorbent cotton. And I learned that neither Du Pont cement nor saturated sugar-water nor any other adhesive would long hold an egg in place on a Queen ant's tail. Oh, I got the egg stuck on several times, yes, but before the camera could be started it was knocked loose. The nearest I came to my ideal was a scene in which the Queen stands, head bowed in shame, with an egg directly under her.

In micro-photography with quick, lively insects like ants, the problem of controlling their field of activity is acute. My Harvesters seemed possessed of a will to expand, expand. They would rush to the right or left limits of any field containing them, leaving center-screen blank. After much experimenting I devised a handy device possibly worth describing. It consisted merely of a block of good, carefully scored with parallel lines, capable of receiving and holding firmly sheets of

microscope glass through which one can photograph with a minimum of distortion and light loss. Right and left limits of the field were provided by strips of ordinary plate glass which could be slid back and forth at will and secured in place by rubber bands. It was simple to graduate the wooden base with the field sizes corresponding to various extension tubes.

For illumination I used three Color-Tran spots. Their intense heat was filtered off by passing the light through an ice-water filter. Also, since almost all scenes were made at 64 frames per second, I turned the lights on at shooting intensity only when the camera was rolling and got my footage before the swiftly mounting heat could harm my little actors.

In this film I used almost entirely a Zeiss f/1.4 coated Biotar although for a few scenes a 2" coated f/1.6 Eastman Anistigmat did noble service.

Scenes possibly worth noting in the film are those revealing life and movement in the seemingly inert larvae; a 360-frame three-hour stop-action sequence showing the coming to life of a pupa and a 35-foot recapitulation panning shot at the end of the film. With a Stevens motor driving my Bolex, I shifted my stage across the lens, stopping six times to show in review an egg and its development through the full cycle.

New Densitometer

Photo Research Corp., 127 W. Alameda, Burbank, headed by Karl Freund, A.S.C., announces its new Spectra Color Densitometer is now in production. It is entirely photo-electric in operation, which makes possible a greater range of density readings. Readings may be taken from 0.0 to 4.0 density, on either B&W or color films.

Outstanding application of instrument is said to be for measuring monopack and integral tripack color films.

Trifilm Splicer

Adding to their famed line of cine equipment which includes the popular Bolex cameras, Paillard Products, Inc., 265 Madison Ave., New York, announce the Trifilm Splicer, engineered by the same Swiss craftsmen who produce the cameras. Splicer will handle 8mm., 9½ mm. or 16mm. films. A feature is the self-adjusting cutting blade, assuring accurate splices. Finish is in satin chrome and an extra emulsion scraping knife is included. Price is $19.95.

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Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

Columbia

• BURNETT GUFFEY, "A Mother For May," with William Holden, Coleen Gray and Charles Winninger. Norman Foster, director.

• WILLIAM SNYDER, "The Petty Girl," with Robert Cummings, Joan Caulfield, and Elsa Lanchester. Henry Levin, director.

• IRA MORGAN, "Captive Girl," with Johnny Weismuller, Buster Crabbe, and Anita Lhoest. William Berke, director.

• JOSEPH WALKER, "No Sad Songs," (Robert Rossen Prod.) with Margaret Sullavan, Wendell Cory, Viveca Lindfors and Natalie Wood. Rudy Mate, director.

• CHARLES LAWTON, "Kill The Umpire," with William Bendix and Gloria Henry. Lloyd Bacon, director.

• VINCENT FARRAR, "Beauty On Parade," with Robert Hutton, Ruth Warrick and Lola Albright. Lew Landers, director.

Independent

• ARCHIE STOUT, "Never Fear" (Filmakers, Inc.) with Sally Forest, Keefe Brasselle and Rita Lupino. Ida Lupino, director.

• PHILIP TANNURA, "The Flying Saucer," with Mikel Conrad, Virginia Hewitt, Russell Hicks. Mikel Conrad, director.

• HAL MOHR, "Here Lies Love," (Briskin-Smith Prod.) with Robert Young, Betsy Drake, John Sutton and Jean Rogers. James V. Kern, director.

M-G-M

• JOHN ALTON, "Devil's Doorway," with Robert Taylor, Paula Raymond, Marshall Thompson and Louis Calhern. Anthony Mann, director.

• HARRY STRADLING, "The Yellow Cab Man," with Red Skelton, Gloria DeHaven, Walter Slezak, James Gleason and Edward Arnold. Jack Donohue, director.

• CHARLES SCHOENBAUM, "Outriders," (In Color) with Joel McCrea, Arlene Dahl and Barry Sullivan. Roy Rowland, director.

• PAUL C. VOGEL, "You're Only Young Twice" (In Color), with Dean Stockwell, Scotty Beckett, Darryl Hickman and Leon Ames. William A. Wellman, director.

• JOSEPH RUTTENBERG, "The Miniver Sequel (In Color—shooting in England), with Greer Garson, Walter Pidgeon, John Hodiak and Cathy O'Donnell. Henry Potter, director.

• RAY JUNE, "The Reformer And The Redhead," with June Allyson, Dick Powell, David Wayne and Cecil Kellaway. Norman Panama and Melvin Frank, directors.

• ROBERT SURTEES, "King Solomon's Mines," (Technicolor) (Shooting in Belgian Congo) with Deborah Kerr, Stuart Granger and Richard Carlson. Compton Bennet, director.

• CHARLES SCHOENBAUM, "Duchess Of Idaho," (Technicolor) with Esther Williams, Van Johnson, John Lund and Paula Raymond. Robert Leonard, director.

• CHARLES ROSHER, "Annie Get Your Gun," (Technicolor) with Betty Hutton, Howard Keel, Louis Calhern, J. Carrol Naish, Edward Arnold, Keenan Wynn and Benay Venuta. George Sidney, director.

• HAROLD ROSSEN, "Asphalt Jungle," with Sterling Hayden, Jean Hagen and James Mitchell. John Huston, director.

Monogram

• WILLIAM SICKNER, "Bomba On Panther Island," with Allene Roberts, Johnny Sheffield and Alita Baron. Ford Beebe, director.

• HARRY NEUMANN, "Borrowed Guns," with Whip Wilson, Reno Browne. Lambert Hillyer, director.

• GILBERT WARRENTON, "Blue Grass Of Kentucky," (In color) with Bill Williams, Jane Nigh, and Ralph Morgan. William Beaudine, director.

• GILBERT WARRENTON, "Young Daniel Boone," (In color) with David Bruce and Kristine Miller. Reginald LeBorg, director.

Paramount

• WILLIAM MELLOR, "A Place In The Sun," with Elizabeth Taylor, Montgomery Clift and Shelly Winters. George Stevens, director.

• GEORGE BARNES, "Mr. Music," with Bing Crosby, Charles Coburn, Ruth Hussey and Nancy Olson. Richard Hadyn, director.

• ROY HUNT, "Outrage," (Pine-Thomas) with Macdonald Carey, Gail Russell, Ed Rios. Joseph Losey, director.

R-K-O

• RAY RENNAHAN, "The White Tower" (Shooting in Europe) with Glenn Ford, Valli, Claude Rains, Sir Cedric Hardwicke, Oscar Homolka, Lloyd Bridges, Ted Tetzlaff, director.

• LEE GARMES, "With All My Love" (Samuel Goldwyn Prodn.) with Ann Blyth, Joan Evans, Farley Granger, Donald Cook, Jane Wyatt, Ann Dvorak and Phyllis Kirk. David Miller, director.

• FREDDIE YOUNG, "Treasure Island" (Walt Disney Prodn.—Shooting in England) with Bobby Driscoll, Robert Newton, Basil Sidney and Denis O'Dea. Byron Haskin, director.

• HARRY WILD, "Carriage Entrance," with Robert Mitchum, Ava Gardner and Melvyn Douglas. Robert Stevenson, director.

• NICHOLAS MUSURACA, "Gun Thunder," with Tim Holt, Richard Martin, Elaine Riley. Lesley Selander, director.

• LEO TOVER, "Blind Spot," (Skirball-Manning Prod.) with Claudette Colbert, Robert Ryan and Jane Cowl. Mel Ferrer, director.

20th Century-Fox

• CHARLES G. CLARKE, "Two Corridors East" (Shooting in Berlin, Germany) with Montgomery Clift, Paul Douglas, Cornella Burch and Burni Loebel. George Seaton, director.

• HARRY JACKSON, "A Ticket To Tomahawk (In Color) with Dan Dailey, Ann Baxter, Rory Calhoun and Walter Brennan. Richard Sale, director.

• FRED JACKMAN, JR., "The Cariboo Trail" (Nat Holt Prodn.—In Color) with Randolph Scott, Bill Williams, Victor Jory and Karin Booth. Edwin L. Marin, director.

• ARTHUR MILLER, "The Gun Fighter," with Gregory Peck, Helen Wescott, Jean Parker and Skip Homeier. Henry King, director.

• JOSEPH LASHELLE, "The Big Fall," with John Garfield, Micheline Prelle, Luther Adler and Orley Lindgren. Jean Negulesco, director.

• LEON SHAMROY, "Cheaper By The Dozen," (Technicolor) with Jeanne Crain, Clifton Webb, Myrna Loy, Betty Lynn. Sara Allgood. Walter Lang, director.

United Artists

• HENRY FREULICH, "The Iriquois Trail," (Bernard Small Prod.) with George Montgomery, Brenda Marshall, Glen Langan, Sheldon Leonard and Paul Cavanaugh. Phil Karlson, director.

Universal-International

• RUSSELL METTY, "Sierra" (In Color) with Audie Murphy, Wanda Hendrix, Anthony Curtis, Burl Ives. Alfred E. Green, director.

• CLIFFORD STINE, "Outside The Wall," with Richard Basehart, Marilyn Maxwell, Dorothy Hart. Crane Wilbur, director.

• WILLIAM DANIELS, "Deported" (Shooting in Italy) with Marta Toren, Jeff Chandler. Robert Siodmak, director.

• MAURY GERTZMAN, "Double Crossbones," (In Color) with Helena Carter, Donald O'Connor, John Emery. Charles Barton, director.

Warner Brothers

• WILFRID CLINE, "The Daughter Of Rosie O'Grady, (Technicolor) with June Haver, Gordon MacRae, Gene Nelson and James Barton. David Butler, director.

• TED MCCORD, "The Victim," with Joan Crawford, David Brian and Steve Cochrane. Vincent Sherman, director.

• ERNEST HALLER, "The Hawk And The Arrow," with Burt Lancaster, Virginia Mayo and Frank Allenby. Jacques Tourneur, director.

• SIDNEY HICKOX, "The Rock Bottom," with Eleanor Parker, Patricia Neal, Ruth Roman, and Lief Ericson. Robert Wise, director.

Prices Reduced

Price reductions affecting 8mm. home movie film and certain cameras were announced by Eastman Kodak Company last month. Both black and white and Kodachrome 8mm. in 25-foot rolls and magazines were included in the reductions. Company's new Reliant 8mm. camera with f/2.7 lens was reduced from $89.00 to $79.00.

Brockway Heads Pathe Cine

Robert E. Brockway, head of Director Products Corp., makers of the Norwood exposure meter, was recently elected president of Pathé Ciné, sole American distributors of the well known French line of cameras and projectors.

Camera Demonstration

S.O.S. Cinema Supply Corp., 602 W. 52nd St., N. Y., held open house Friday, October 21st, at which time Bud Furer, head of Producers Service Co., Burbank, Calif., demonstrated the Acme Process Camera and stop motion and variable speed synchronous motors which they manufacture and which are distributed by S.O.S.

THIS IS THE DIRECTOR OF PHOTOGRAPHY

(Continued from Page 401)

to millions of people the important function of the motion picture cameraman.

Mr. Struss is shown in pre-production consultations with the art director, the wardrobe department and head of the makeup department. "It is with an eye to what is expensive to photograph and what is not that budgets and breakdowns are prepared," the narrator explains. "It is with a sound conception of how they will look before the critical eye of his camera that costumes are designed and makeup is applied."

The usual procedure of the cinematographer in checking the dressing of sets, and on through a long list of other production operations is shown. "On the cinematographer, then, rests the crucial responsibility of integrating and translating to film all the many and varied tangibles and intangibles which go into making every motion picture," the narrator explains.

"It is a responsibility for which he is well qualified. His background is one of much study, training and experience. He has served a long and thorough apprenticeship in all phases of cinematography — a progressive apprenticeship which took him through stages of experience as an assistant cameraman, and later as an operating cameraman. All this long before he reached his present status as a director of photography, A.S.C."

"The letters A.S.C. identify him as a member of the American Society of Cinematographers, just as, in Britain, 'B.S.C.' designates a member of the British Society of Cinematographers."

The picture proceeds to show the preparation of sets for actually shooting the picture, the placement of lights and then the addition of certain gadgets whose function are to tone down a light here or add a shadow there, all according to the individual flair of the cinematographer. For light you see, is his medium — the only one in which he works, and he orders it to his liking.

"By changing his lighting," the narrator tells us, "the cinematographer creates almost unlimited variations in mood and character on the screen, as a few samples of his artistry will illustrate." And a series of inserts illustrate lighting for romance, for comedy, and for drama. Some of the most notable scenes from recent outstanding films, some of them Academy Award winners, are shown as the narrator explains that here is the tangible result of the cinematographer's work: "Images on film — a hundred and fifty thousand of them in the average feature-length picture! A celluloid ribbon a mile and a half long."

The picture closes with the thought that wherever the cinematographer works, whatever his assignment, he has but one purpose: to add to your movie-going pleasure by giving you top entertainment *in pictures.*

Script for the picture followed long consultations with leaders in the profession and officers of the A.S.C. Grant Leenhouts, of the Academy of Motion Picture Arts and Sciences, which sponsored production of this and other films in the series, acted as coordinator for the writers gathering data that went into the final script by screen writer Lyle Robertson. The picture was produced at Paramount Studios by Jerry Hopper and photographed by Lionel Lindon, A.S.C.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233)

Of AMERICAN CINEMATOGRAPHER, published Monthly at Los Angeles, California, for October 1, 1949.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:

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5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

ARTHUR E. GAVIN
Editor

Sworn to and subscribed before me this 6th day of October, 1949.

(Seal) C. K. Buchanan

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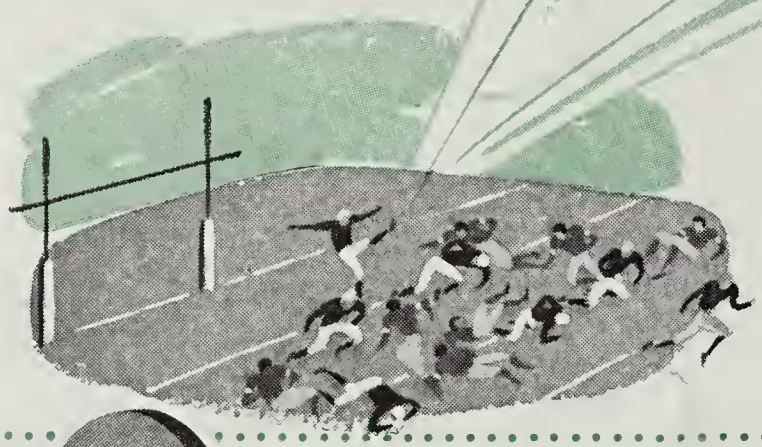
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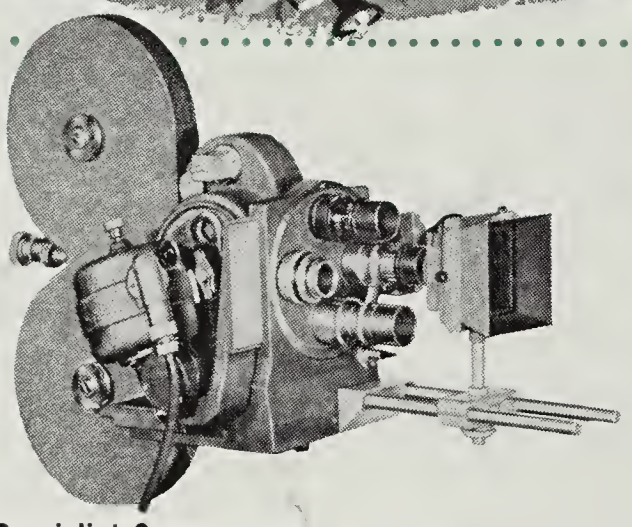




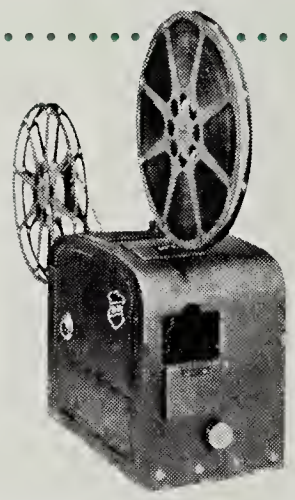
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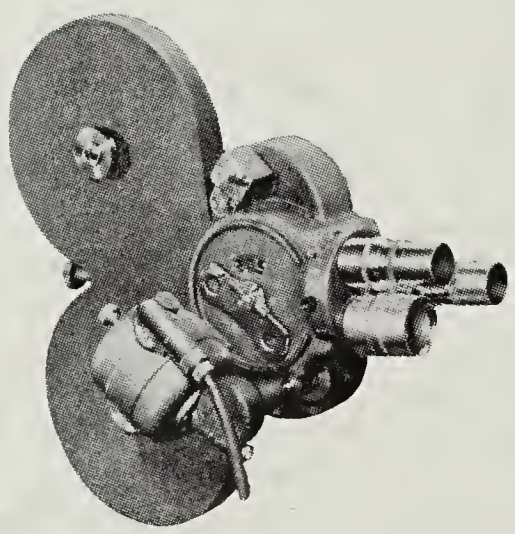
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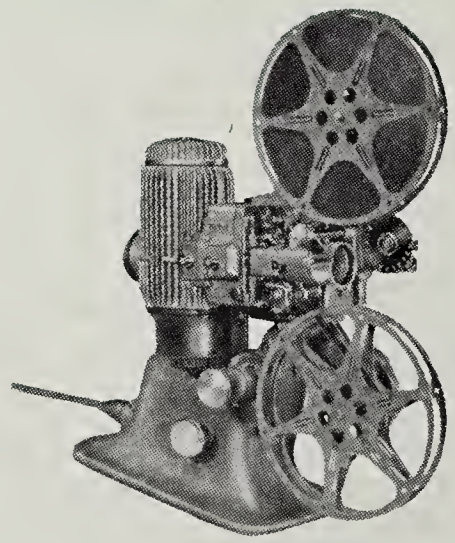
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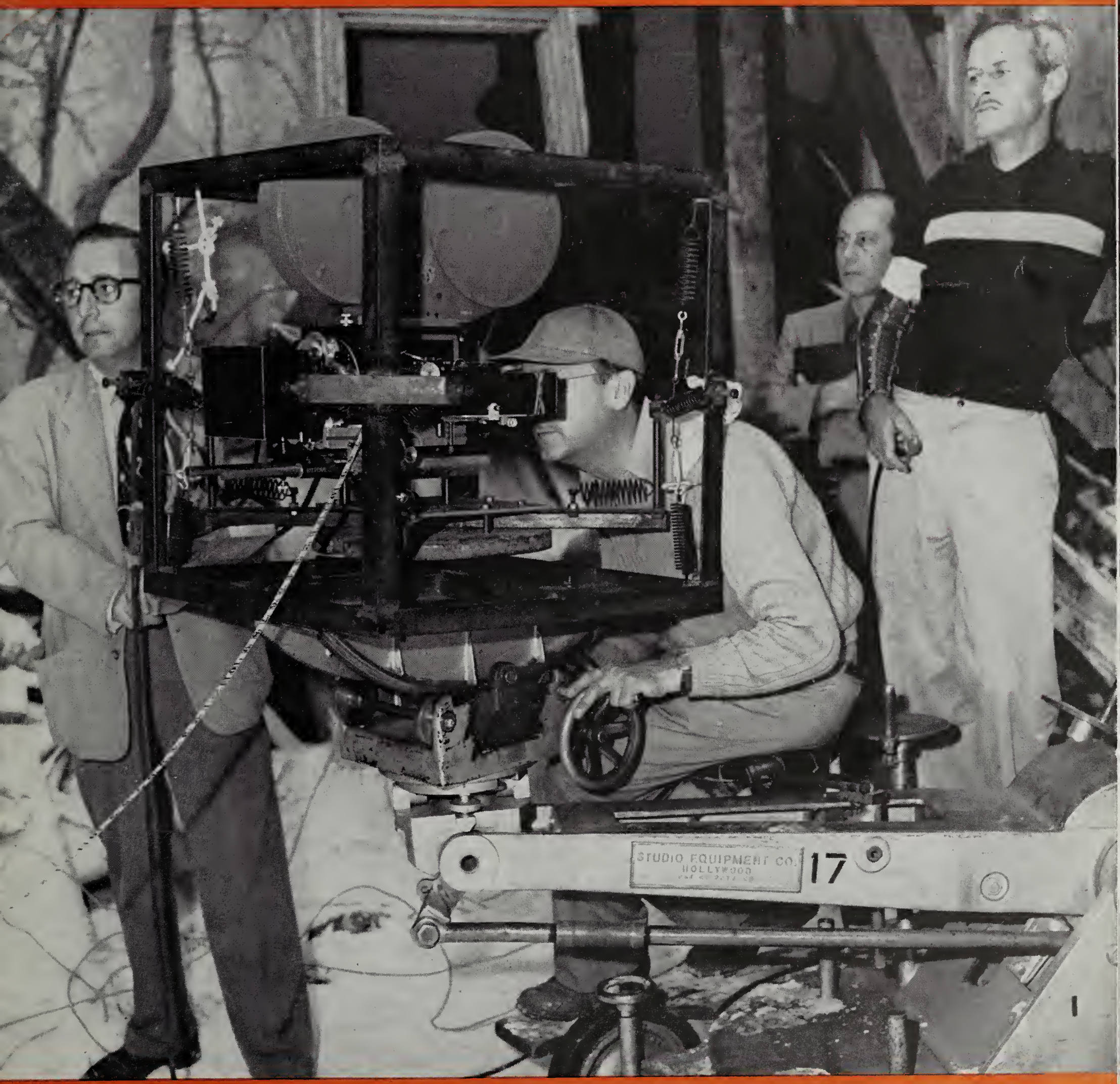
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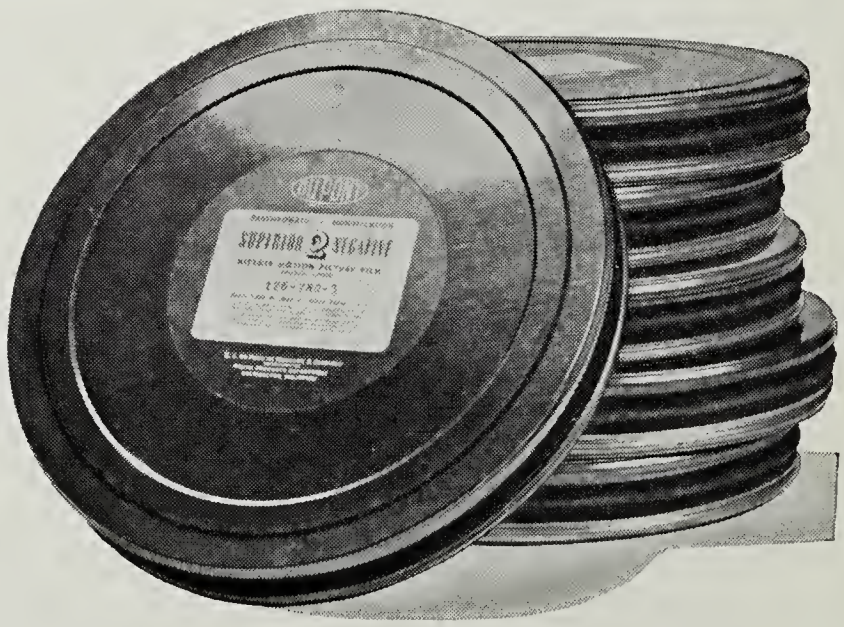
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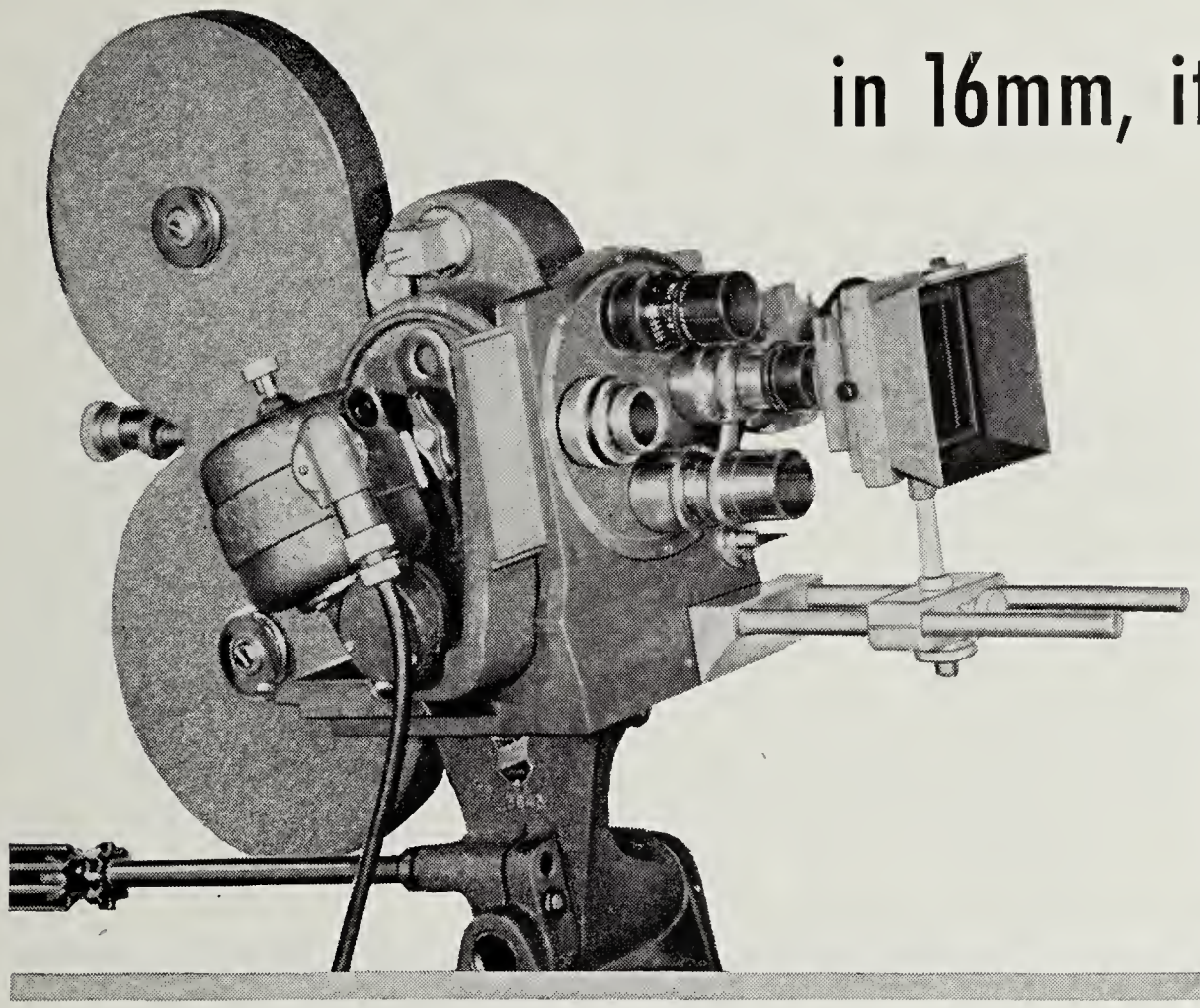
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ON THE COVER

For realistic shots of explosion scenes in "Battleground," MGM technicians devised a concussion mounting for the camera. Inside a light steel framework, the Mitchell camera is suspended from light coil springs and braced vertically and horizontally. In filming explosions from artillery bombardment, director of photography Paul C. Vogel (left) struck the framework a sharp blow, causing camera to jarr momentarily, then "jitter" back to normal—creating concussion effect of a heavy explosion. Behind camera is operator James Harper, director William A. Wellman, and in rear, author-associate producer Robert Pirosh.—*Photo by Ed Hubbell*

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1949 by A. S. C. Agency, Inc. AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.

★

AMERICAN SOCIETY OF CINEMATOGRAPHERS

FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

The Society meets regularly once a month at its clubhouse at 1782 North Orange Drive, in the heart of Hollywood. On November 1, 1920, the Society established its monthly publication "American Cinematographer" which it continues to sponsor and which is now circulated in 62 countries throughout the world.

Dominant aims of the Society are to bring into close confederation and cooperation all leaders in the cinematographic art and science and to strive for pre-eminence in artistic perfection and scientific knowledge of the art.

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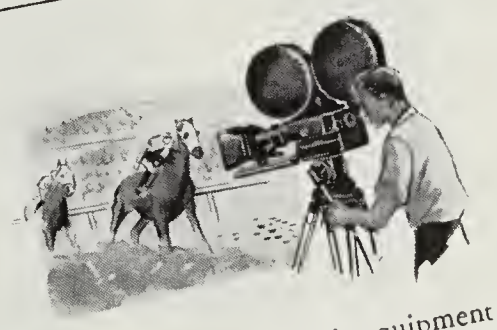


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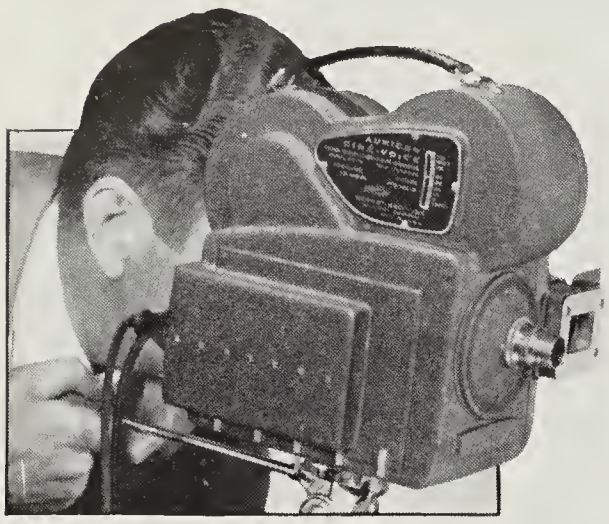
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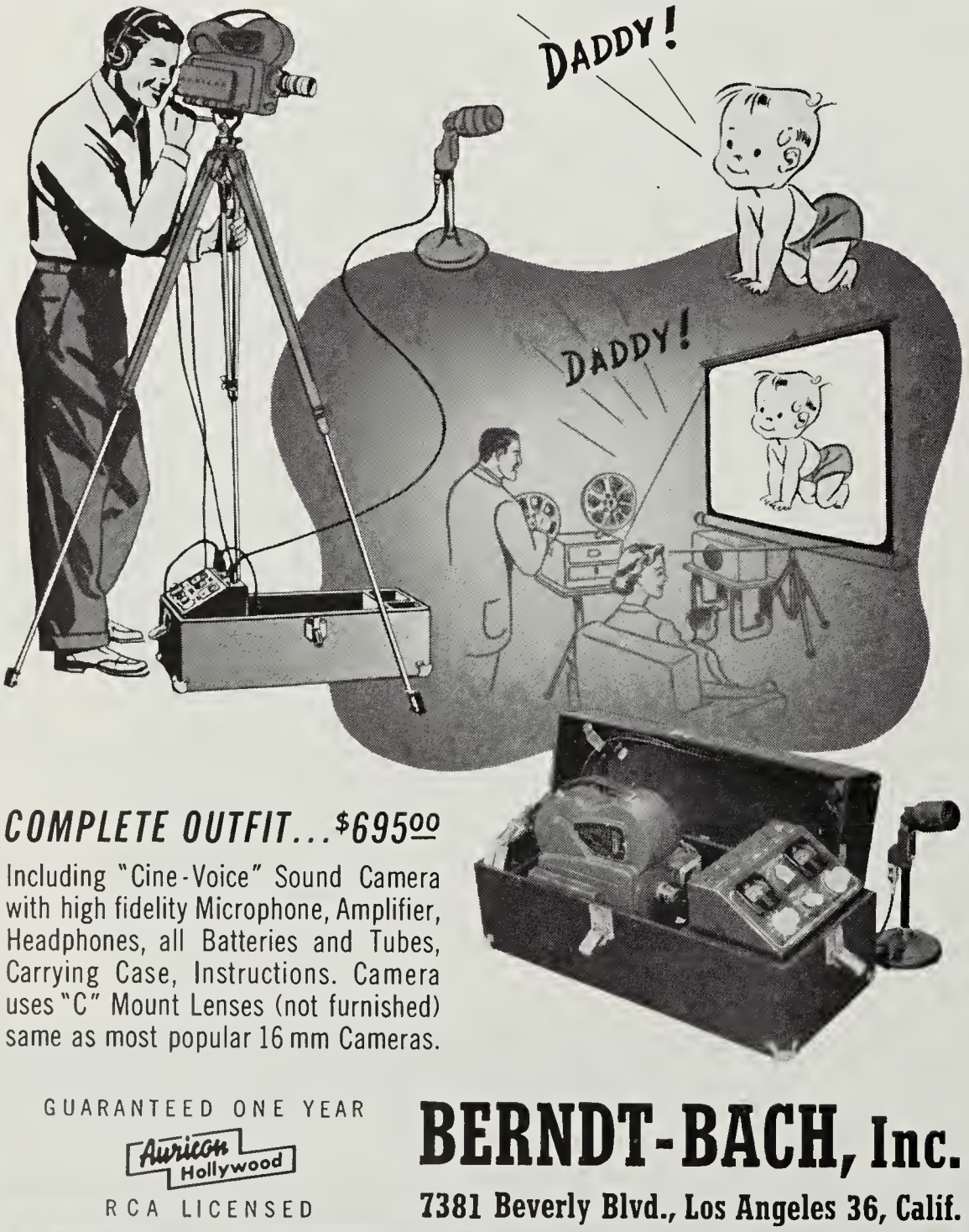
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KARL FREUND, A.S.C., after a nine-month sabbatical from Warner Brothers, during which time he moved his Photo Research Corporation to new and larger quarters in Burbank, has returned to that studio to direct the photography of "Bright Leaf," directed by Michael Curtiz.

•

CHARLES ROSHER, A.S.C., has developed a new, improved type diffuser at MGM for fill lights, to replace silks which soon discolor and are rendered useless for Technicolor photography. New diffuser consists of one or two sheets of spun glass mounted in a frame which is hung before the light source. Holder for diffuser is extended six inches ahead of lamp housing, allowing greater ventilation than when other types of diffusers are used. Extending position of diffuser also improves quality of the diffusion, according to Rosher, who is using new gadgets in the photography of "Annie Get Your Gun" starring Betty Hutton.

•

PHIL TANNURA, A.S.C., recently signed by Columbia Pictures to photograph "Custom Agent," will shoot much of the picture in actual locales, mostly downtown Los Angeles office buildings. Using the new "50 foot candles" photography recently inaugurated at Columbia (see article on Latensification elsewhere this issue) Tannura will light these interiors with photofloods and place No. 50 N.D. filter gels over windows to balance the daylight with interior lighting.

•

SOL HALPRIN, A.S.C., head of 20th Century-Fox camera and laboratory departments, and Mrs. Halprin embarked last month for a 30 day cruise of the Caribbean, combining annual vacation and celebration of their 25th wedding anniversary.

•

HERB A. LIGHTMAN, whose name by-lines those interesting articles in American Cinematographer each month, and who for years has been a producer and director of photography of commercial films for Bud Woods Productions, Tulsa, Oklahoma, has been made Production Director of television shows for Tulsa's new million dollar TV station, KOTV.

•

ANNUAL PARADE of Pasadena Tournament Of Roses will be filmed in Technicolor in its entirety January 1st by Universal-International, who will have three color cameras focused on the event. One camera will be suspended from a boom over Colorado boulevard, with the other two spotted along the parade route to

(Continued on Page 457)

FROM

Tropic heat

TO

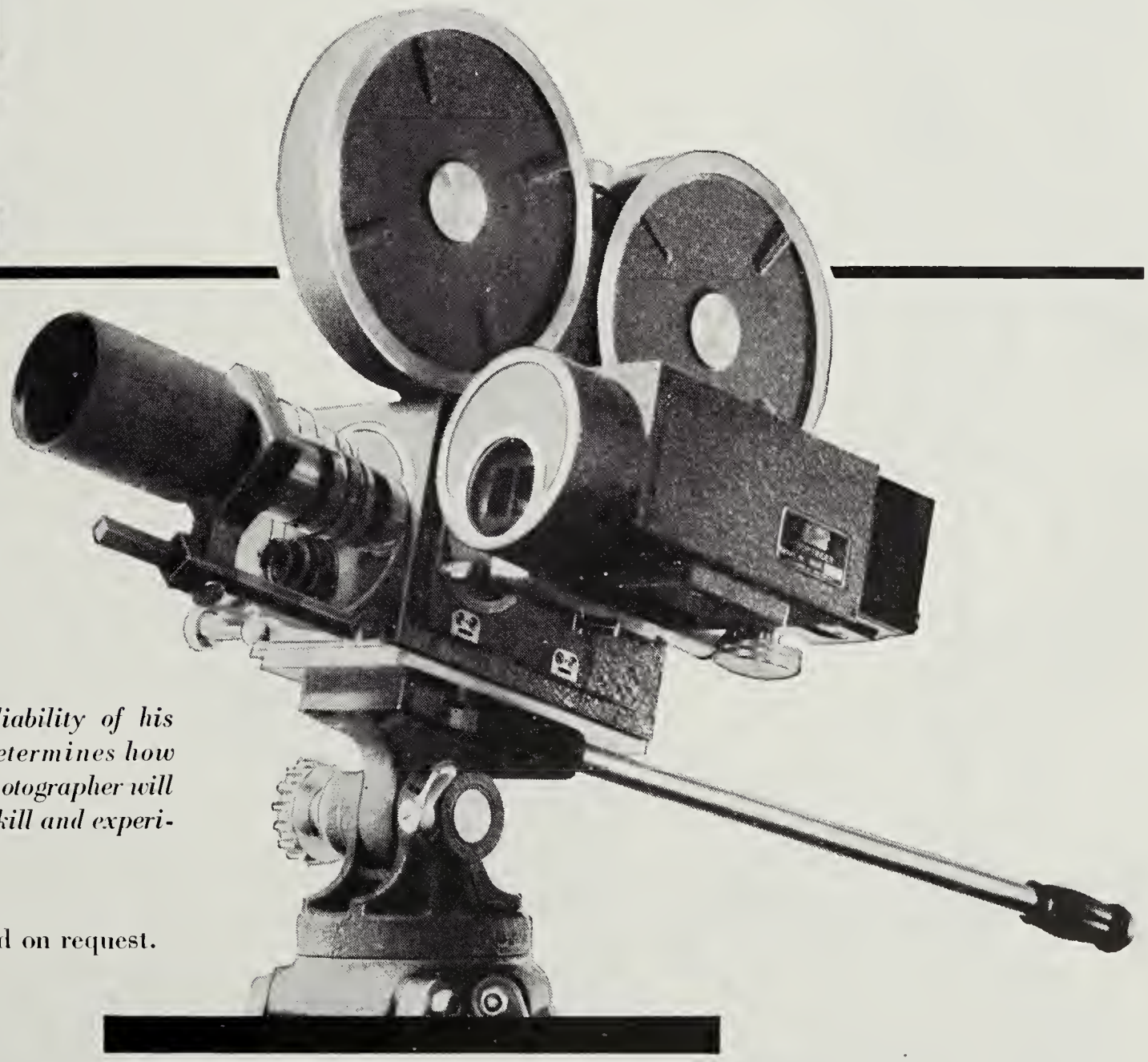
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CURRENT ASSIGNMENTS OF A.S.C. MEMBERS

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

★★★★★★★★★★★★★★★★★

Columbia

• JOSEPH WALKER, "No Sad Songs," (Robert Rossen Prod.) with Margaret Sullavan, Wendell Cory, Viveca Lindfors and Natalie Wood. Rudy Mate, director.

• CHARLES LAWTON, "Kill The Umpire," with William Bendix and Gloria Henry. Lloyd Bacon, director.

• BURNETT GUFFEY, "In A Lonely Place," later retitled "Behind This Mask," (Santana Prodn.) with Humphrey Bogart, Gloria Graham, Frank Lovejoy, Jeff Donnell. Nicholas Ray, director.

• GEORGE DISKANT, "Fortunes Of Capt. Blood," with Louis Hayward, Patricia Medina, Dona Drake and Lowell Gilmore. Gordon Douglas, director.

• JOSEPH BIROC, "The Killer That Stalked New York," with Evelyn Keyes, Wm. Bishop and Lola Albright. Earl McEvoy, director.

Eagle-Lion

• JACK MACKENZIE, "Blaze Of Glory," with Ron McAllister. Jack Rawlins, director.

• LIONEL LINDON, "Destination Moon," (George Pal Prodn.) with Warner Anderson, John Archer, Erin O'Brien-Moore and Tom Powers. Irving Pichel, director.

Independent

• HAL MOHR, "Here Lies Love," (Briskin-Smith Prod.) with Robert Young, Betsy Drake, John Sutton and Jean Rogers. James V. Kern, director.

• KARL STRUSS, "It's A Small World," (Motion Pictures, Inc.) with Paul Dale, Lorraine Miller and Nina Koshetz. William Castle, director.

° JAMES WONG HOWE, "The Baron Of Arizona," (Lippert Prod.) with Vincent Price, Ellen Drew, Beulah Bondi and Vladmir Sokoloff. Sam Fuller, director.

• HENRY FREULICH, "The Vicious Years," (Emerald-Film Classics) with Tommy Cook, Sybil Merritt, Edward Franz, and Anthony Ross. Robert Florey, director.

M-G-M

° PAUL C. VOGEL, "You're Only Young Twice" (In Color), with Dean Stockwell, Scotty Beckett, Darryl Hickman and Leon Ames. William A. Wellman, director.

• JOSEPH RUTTENBERG, "The Miniver Sequel (In Color—shooting in England), with Greer Garson, Walter Pidgeon, John Hodiak and Cathy O'Donnell. Henry Potter, director.

• RAY JUNE, "The Reformer And The Redhead," with June Allyson, Dick Powell, David Wayne and Cecil Kellaway. Norman Panama and Melvin Frank, directors.

• ROBERT SURTEES, "King Solomon's Mines," (Technicolor) (Shooting in Belgian Congo) with Deborah Kerr, Stuart Granger and Richard Carlson. Compton Bennet, director.

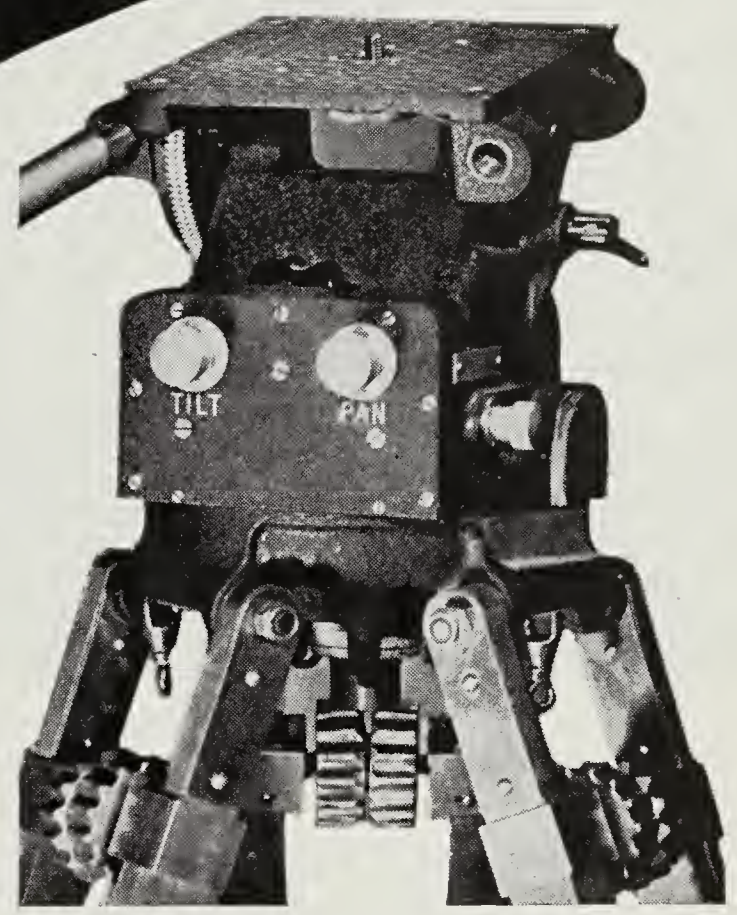
• CHARLES SCHOENBAUM, "Duchess Of Idaho," (Technicolor) with Esther Williams, Van Johnson, John Lund and Paula Raymond. Robert Leonard, director.

• CHARLES ROSHER, "Annie Get Your Gun," (Technicolor) with Betty Hutton, Howard

(Continued on Page 461)

"PROFESSIONAL JUNIOR" Camera Equipment...

• • • the most versatile and dependable camera accessories available for those who prefer the finest.



Small GYRO Tripod

This light weight GYRO Tripod performs with all the efficiency of larger, heavier and costlier tripods now in use.

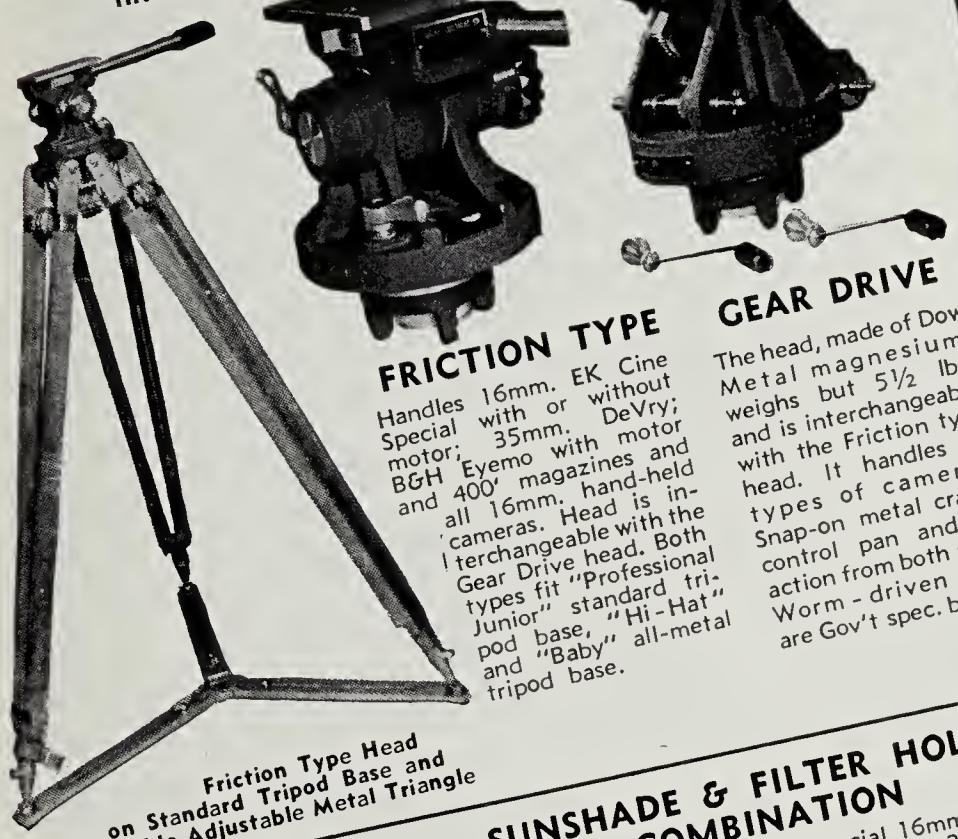
New, small size GYRO tripod handles all 16mm. professional type cameras: Mitchell 16mm.; Auricon single system; Maurer 16mm.; motor-driven Cine Special; also 35mm. motor-driven Eyemo with 400′ magazine. It features Super Smooth Pan & Tilt Action.

Positive pan-locking knob. Tilt locking lever. Quick wrist action locking knob for leg height adjustments. Pan handle can be inserted at 3 different positions on tripod head for operator's convenience or extreme tilt work. Legs are hard maple specially treated and warp resistant. Tripod head is Dow Metal magnesium and aluminum. Built-in spirit level. Swivel tie-down rings. Platform can be equipped for either 3/8 or 1/4 inch camera screw.

— ALSO AVAILABLE —

BABY TRIPODS
CHANGING BAGS
3 WHEEL PORTABLE DOLLYS
"HI-HATS"

Interchangeable - Removable Head Tripods



Friction Type Head on Standard Tripod Base and Collapsible Adjustable Metal Triangle

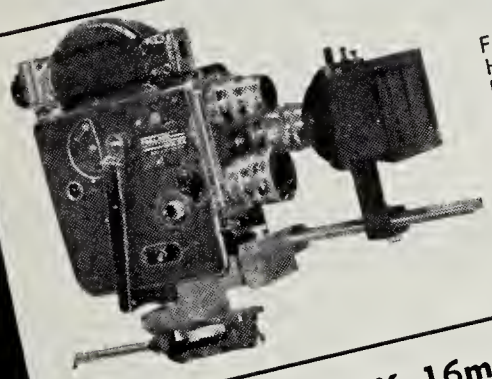
FRICTION TYPE

Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with motor and 400′ magazines and all 16mm. hand-held cameras. Head is interchangeable with the Gear Drive head. Both types fit "Professional Junior" standard tripod base, "Hi-Hat" and "Baby" all-metal tripod base.

GEAR DRIVE

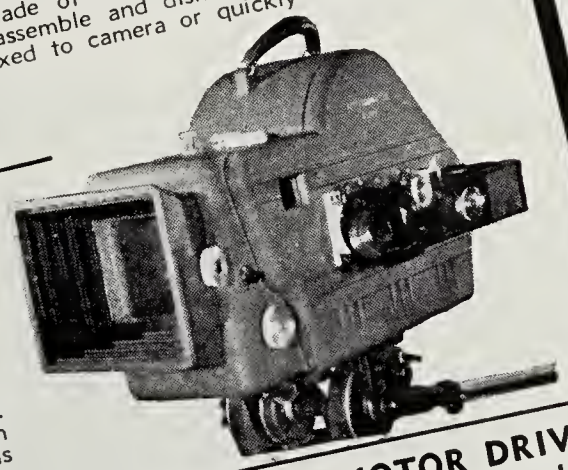
The head, made of Dow Metal magnesium, weighs but 5½ lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap-on metal cranks control pan and tilt action from both sides. Worm-driven gears are Gov't spec. bronze.

SUNSHADE & FILTER HOLDER COMBINATION



For use with Bolex and Cine Special 16mm. cameras. Holds two 2″ sq. glass filters and 2½″ round Pola Screen with handle which can be rotated for polarization. Covers all lenses from 15mm. to 6″ telephoto and eliminates need of various filters. Precision made of the finest materials. Compact, simple to assemble and dismount. May be permanently affixed to camera or quickly detached.

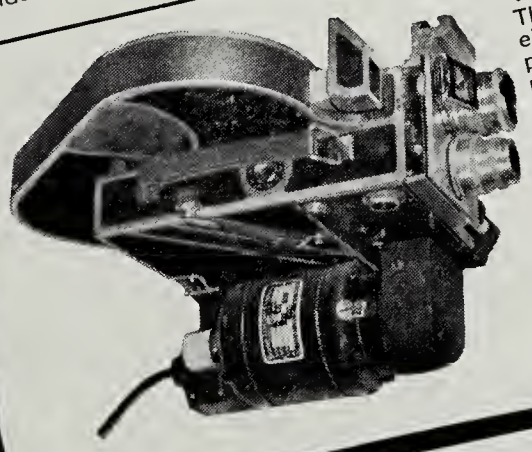
BLIMP for EK 16mm. CINE SPECIAL



This Blimp constructed of Dow Metal magnesium, is thoroughly insulated to afford absolute silent operation. Exclusive features: Follow focus mechanism permits change of lens focus while camera is operating in blimp. Blimp takes synchronous motor drive which couples to camera. A dovetail bracket is provided to mount an erect image viewfinder.

SYNCHRONOUS MOTOR DRIVE

110 Volt A. C., Single Phase, 60 Cycle



This motor will run in synchronization with either 16mm. or 35mm. sound recorders. It is provided with mounting platform which permits removal of magazine while camera remains mounted on motor. Drive coupling attaches to single-frame shaft of camera and is mated to spring-steel drive arm of motor gear box. This assures that camera mechanism cannot be damaged if a film jam occurs as the spring steel arm drive will shear. This is easily replaced. A knurled knob on motor armature permits rotating for threading. "On-Off" switch built into base. Platform base threaded for 1/4″ and 3/8″ camera tie-down screws. Rubber covered cable with plugs included.

SEND FOR OUR ILLUSTRATED CATALOG

FRANK C. ZUCKER
CAMERA EQUIPMENT CO.
1600 BROADWAY NEW YORK CITY

CAMERA SETUP for a low angle shot of an action scene for Metro-Goldwyn-Mayer's "Battleground." This is one of few instances when company worked outside sound stage in sunlight. Bulk of picture was filmed indoors, in artificial fog and snow. Here cinematographer Paul Vogel, A.S.C., (seated, left) relaxes while director William Wellman instructs cast before signalling the camera to "roll."

"LET ME SEE your dog tags, Major," commands Van Johnson in this scene from "Battleground." Cinematographer Paul Vogel's realistic lighting makes this shot look like it was really filmed on a cold, winter day in Bastogne.

Different

. . . and difficult

Ninety percent of the action for "Battleground" was photographed in fog, snow and night time within M-G-M's largest sound stage.



By PAUL VOGEL, A.S.C.

☆ ☆ ☆ ☆ ☆

THE MORNING filming began on "Battleground" I received a personal message of good luck from Dore Schary, producer of the film, which said in part:

> You carry a big responsibility . . . because so much of the honesty of the picture is going to depend on the quality of the photography."

"Honesty," the keynote of the film, could only be achieved, I felt, by studied simplicity of camera work, devoid of any trick effects or camera manipulation which might tend to distract attention from the action.

This "honesty," an inflexible standard agreed upon by Schary and author Robert Pirosh from the film's inception, offered a challenge. That it proved one of the most interesting and difficult assignments, I have the gray hairs to prove, for almost 90 percent of the action is played in fog, snow and/or night-time, centering around the defense of Bastogne during the crucial Battle of the Bulge.

History—with no appreciation of the cinematographer's problems—had chosen to write one of its most blazing chapters during the foulest of European winters. When the Nazis broke through near Bastogne in 1944, snow and fog joined forces with them, preventing aerial support for the beleaguered G.I.'s.

It should be explained here that except for opening scenes (filmed at Sawtelle General Hospital) and the climax (shot at Fort McArthur), "Battleground" was filmed indoors on Metro-Goldwyn-Mayer's Stage 15. This is a cavernous affair, measuring 130x320 feet with a ceiling height of 70 feet, nearly three million cubic feet of air—air which proved as recalcatory before the camera as cats.

With fog the Order of the Day, we faced the problem of adequately lighting the set while avoiding a possible movieboner of casting shadows. Shadows would automatically indicate sunshine, a nonexistent luxury during that dark December week.

All lighting, accordingly, was from overhead, with 130 5K pans, arranged at 20 feet intervals, the first time a major production has been filmed in this manner. When "fog" was flowed onto the set, it served to diffuse the light, creating the necessary effect without throwing shadows.

However, it frequently left actors' faces black under their regulation G.I. helmets. Supplementary lighting for face modelling was used from the floor *up*.

This overhead lighting, while creating the desired result, created problems. The 5K's heated the upper layers of air, starting movement and shifting of colder strata below. This was particularly apparent when only sections of the stage were lit. (To avoid reflections on the fog, at no time did we permit any light at all behind the camera.)

In filming long shots it was impossible to avoid inclusion of some lights. We killed two birds with one stone, photographically and artistically, by masking those light with layers of fog.

Furthermore, despite the constant 40 degrees temperature maintained by the stepped-up air conditioning system, we discovered that soon after lighting the set each morning, the lamp heat started the air currents flowing—but not always in the same direction! We turned this meteorological oddity to advantage placing our fog machines—spraying vaporized light machine oil—at strategic positions, allowing the indoor currents to waft our fog into the desired place.

At all times our foreground was clear, the fog only increasing in density in the background just as it does in actuality. Residents of Southern California can attest to this condition, for even in the heaviest fog, the immediate vicinity seems clear.

En passant, the constant fog—chemical, not mental—in which we worked for more than seven weeks killed the desire to smoke. Cinematographers overly addicted to nicotine might try this effective, but drastic cure.

Possibly wartime experience with the U.S. Signal Corps in Italy had conditioned me to this type of filming. In those days we never waited for weather—fog, snow and rain, like the Biblical poor, were always with us. Thanks to our simplified overhead lighting system for "Battleground," and a masterly overall set design by Unit Art Director Hans Peters which permitted a full 360 degrees filming, no time was lost in changing set-ups. It was not uncommon many days

(Continued on Page 448)

SNOW AND FOG, artificially produced within a closed sound stage, proved an obstacle both to photography and effective lighting. Vogel employed overhead illumination entirely—130 5K pans spaced at 20 foot intervals.



HALF MILE TRUCKING SHOT was made with dolly instead of camera car, presented problem of handling sound and power cables as camera rolled 2600 feet. "Snow" covering hills is whitewash spray job.





"OUR OWN cultural and educational organization, The American Society of Cinematographers, is particularly active in furthering the development of new processes and new techniques in cinematography," said Charles G. Clarke, speaking at the opening ceremony of the George Eastman House in Rochester, New York, last month.

STORY TELLING WITH FILM

The Director of Photography's contribution in the science and art of cinematography.

By CHARLES G. CLARKE, A.S.C.

THE FOLLOWING *address was delivered by Charles G. Clarke, president of the American Society of Cinematographers, on the occasion of the dedication of the George Eastman House in Rochester, New York, on November 9, 1949. Mr. Clarke's address was a feature of the symposium on "The Science and Art of Photography," which highlighted the dedicatory program and in which six other notables of the photographic world participated.* – EDITOR.

I AM PARTICULARLY honored to be present on this occasion of the Dedication of the George Eastman House. To me, Mr. Eastman was a boyhood hero, who today has gone down in history as one of the world's great men. It is fitting and appropriate that his home be made into a shrine of photography so that students may come to understand the great public benefit that he did so much to make popular and practical.

As a student of photography and of the history of the cinema, I personally know what his introduction of roll film meant to the creation of the motion picture film industry. As a representative of the Directors of Photography, it is with a sense of humbleness, and yet with some pride, that I feel we cinematographers have carried on to a fine art from those materials placed in our hands by Mr. Eastman and his associates.

As some confusion exists about the title, "Director of Photography," perhaps a brief summary at this time would be in order. Since the inception of the movies there have been cameramen. Then, as the peculiar technique of the cinema was developed, the cameraman became the cinematographer. As the industry progressed, cinematography took on specialized fields. The cinematographer now devoted more of his talents to composition and lighting and left the mechanics of the camera to members of this staff. Today he directs and supervises the efforts of a large crew of workers and is now known as the Director of Photography. He selects the composition, sets the exposure, conceives the lighting and designates the filters or other photographic controls to be employed.

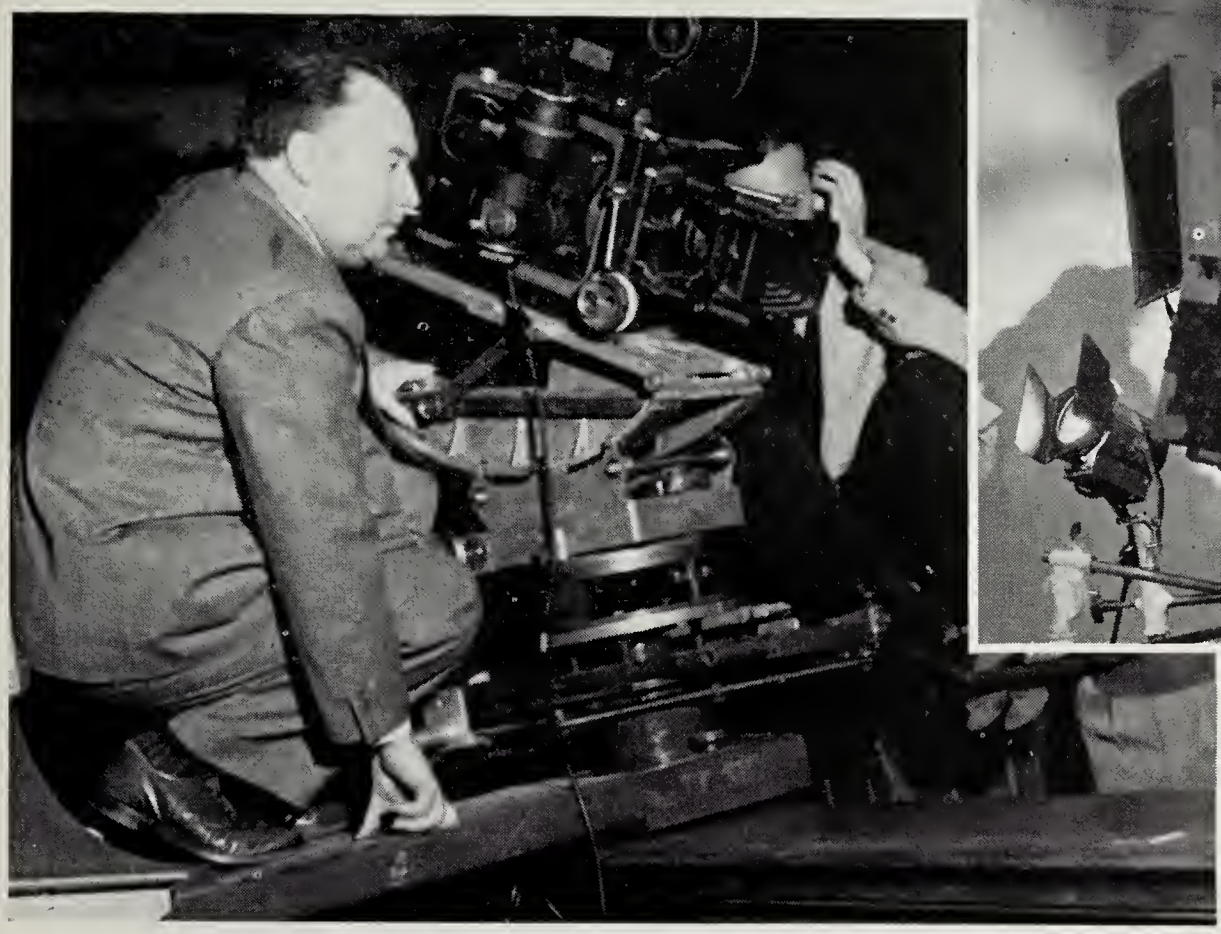
Some may well ask, "How does motion picture photography differ from regular photography?" While photography is the basis for this particular field, the requirements for *telling a story on motion picture film* have created a technique quite unique from that which went before. The use of moving figures, the lighting technique utilized to obtain plasticity, the effective use of relatively short-focus lenses, as well as the mobile camera all are examples peculiar to cinematography. In the very early days cameramen invented the fade-out and fade-in; the lap-dissolve, the matte shot, the process shot and numerous other special effects that have been incorporated into the technique of writing for the screen.

One of the great problems of picture production is securing stories for the screen. Over five hundred productions are turned out annually by the industry and any author will concur that no such number of plots exist. The studios are therefore obliged to revamp many of the old reliables, give them new casts and dialogue, a change of locale and depend heavily on new photographic treatment. This continual search for new photographic approach is one of the most exciting aspects of the industry. Thousands of workers throughout the land have a hand in it. The physicist creating a new or better product; the chemist perfecting a better formula, the engineer fabricating a machine that will do that which could not be done before. The writer devising a scene in some new and unusual setting, and the producer, director and cinematographer translating it finally to film are all part of a *team* striving to do

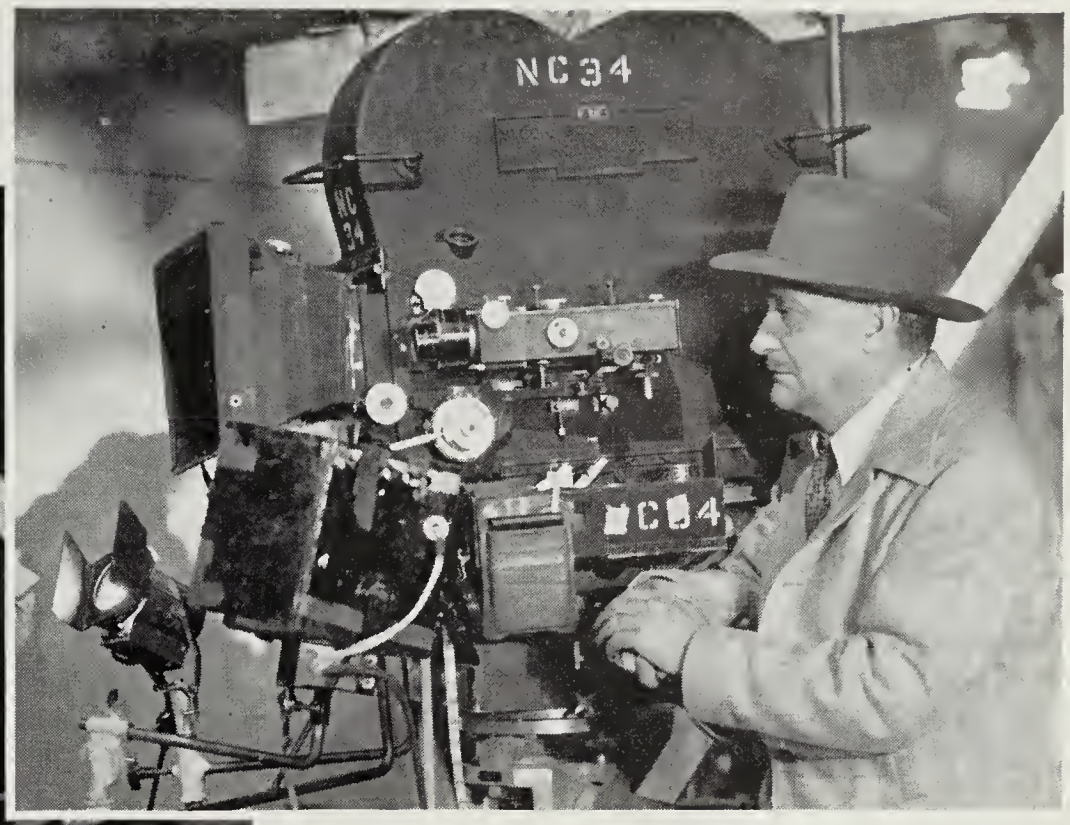
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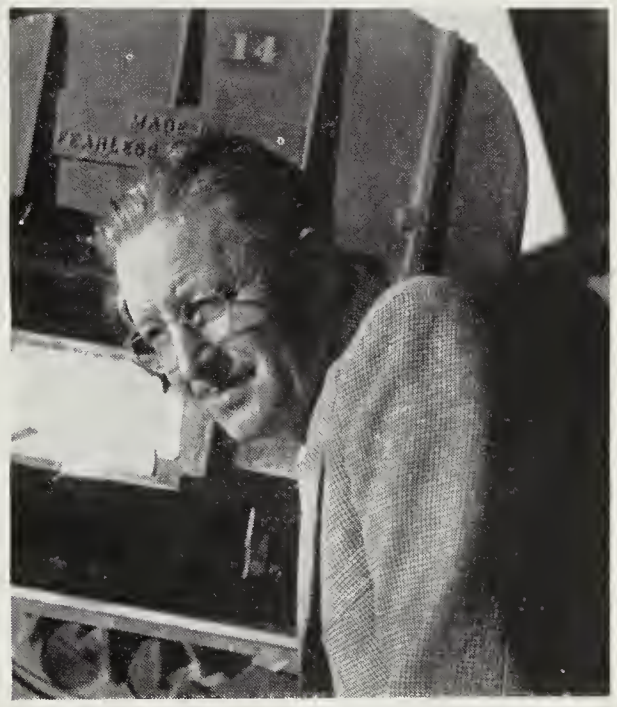
MANY WORLD NOTABLES attended opening of George Eastman House. Watching Thomas J. Hargrave, president of Kodak, cut ribbon of movie film at dedicatory ceremony, is Mary Pickford (seated in front row, far left) and next to her, Admiral Richard Byrd. The House has been established by Kodak as a public educational institute to further knowledge of photography as a living memorial to George Eastman.



LEE GARMES, A.S.C., started as a property boy at the old Thomas Ince studio. Devising special lighting to enhance features of an early day star put him on the road to success—set the pattern for his individual camera style.



JOSEPH WALKER, A.S.C., thought he'd like to be an electrical engineer until he watched a cameraman shoot a scene in a Hollywood studio. He got a job in a lab, and rapidly worked his way up.



RAY JUNE, A.S.C., was a lab assistant when the studio cameraman quit and Ray stepped into his shoes.



SOL POLITO, A.S.C., decided he'd rather shoot movies than project them in "nickelodeons."

Resourcefulness Paved The Way For Their Success

Second in the series of articles describing how top directors of photography got their start.

By FREDERICK FOSTER

LAST MONTH we pointed out that some of the most successful directors of photography got their start in the natural course of looking for a job; that nearly all of them got into the motion picture business without benefit of a graduate course in photography. These men possessed two dominant attributes, however, that peculiarly fitted them for the career they or fate ordained they were to follow —imagination and resourcefulness.

An example how resourcefulness started one cameraman on the road to cinematic fame is the instance in which Lee Garmes, A.S.C., assigned to photograph "The Duchess and The Waiter," many years ago, made an otherwise mediocre story into a hit picture by devising new lighting for the star, which greatly enhanced his appearance on the screen. The story was considered more or less a lemon, and the male star considered a second-rate actor because he had "bags" under his eyes.

Faced with this situation, Garmes started experimenting on eliminating those "bags" with lighting, and in so doing became the first cameraman to use mazda bulbs instead of carbons. He used

(Continued on Page 454)

New Speed For Films

Hollywood studios, using new film intensifying process, report marked economic benefits.

By LEIGH ALLEN

EVER SINCE the Academy, two years ago, awarded an "Oscar" jointly to Paramount and DuPont for introducing latensification in the processing of motion picture film, several major studios have adopted the process and are using it profitably.

One studio is using latensification consistently in the production of all its "B" pictures with a consequent savings of up to 60% in lighting costs. Others are using it to shave lighting costs on extensive night exteriors or to save footage exposed in adverse light or where it was impossible to use a full quota of standard lighting units. It is predicted that within a year, latensification will have altered appreciably the photographic procedures of all studios, chiefly because of the economic benefits. As one industry spokesman put it, "Latensification is an indispensable part of production today."

The process of latensification, which was described at length by Hollis W. Moyse, A.S.C., in his article in the December, 1948, issue of American Cinematographer, results in converting to acceptable printing negative, motion picture film that has been deliberately or necessarily underexposed. The process, which is also known as post-exposure or post-fogging, consists of a simple laboratory procedure of re-exposing the underexposed negative to a weak light for a period of time prior to development, thus intensifying the latent image.

The phenomenon was noted as early as 1939 by Robert Cabeen in the course of his work in the DuPont research laboratories. He was intrigued when some exposed negative sensitometric strips, which had unintentionally received an extended safelight exposure, showed a very substantial gain in density in the threshold region. He diagnosed the effect as resulting from the action of the safelight although the strips showed only a very slight increase over normal fog values in the unexposed areas. Further tests confirmed the diagnosis that a small amount of light, applied over a considerable period, has the effect of intensifying the latent image.

Not until the process was suggested to Dr. C. R. Daily of Paramount Pictures was an application attempted in the motion picture industry. Starting late in 1946, Paramount applied latensification to production action stills. Early in 1947, this company extended the latensification process to the treatment of motion picture negative, with remarkable benefits both economic and in picture quality. Today, latensification is an accepted procedure in the Paramount laboratory.

Speaking from the viewpoint of photography, Ray Wilkinson, Paramount's camera department head said, "We feel that latensification affords the cameraman a strong advantage when properly used, and we are likewise pleased when economies are effected. However, we still are of the opinion that it is a special tool to be used with discretion and we do not recommend its indiscriminate use on all artifically lighted sets."

There has never been any pressure on the cameramen at Paramount with regard to the use of this process. All of the men have been made acquainted with its advantages, and its use or non-use lies within their discretion, according to Wilkinson. He emphasized that Paramount does not insist upon use of latensification to effect economies on normally lighted interiors.

"During the past year, the process has been employed to some extent on perhaps two-thirds of our pictures," Wilkinson said, "and its use is steadily increasing. Some productions may have only a few scenes or an isolated sequence subjected to latensification, but in others it is much more frequently used throughout the entire picture, as in the recently completed 'Sunset Boulevard' and 'United States Mail.'"

"Incidentally both of these productions were photographed by John Seitz, A.S.C., and his objective in the use of latensification was quite different for each picture. On 'Sunset Boulevard' it was used to permit stopping down for focal depth in a low key light. The greater use of the process on 'United States Mail' occurred while the company was on location shooting the steel mills at Gary, Indiana. In this instance, the use of latensification could conceivably have meant the difference of shooting or abandoning the location, as the vastness of the area covered together with the extent of the camera moves would have made conventional lighting methods virtually impossible. Naturally, tremendous economies were effected and it was felt, upon reviewing the material, that the quality was actually enhanced rather than harmed," Wilkinson concluded.

It is reported that Columbia Pictures is now making more extensive use than

(Continued on Page 456)

LATENSIFICATION, TIME AND MONEY SAVER

Introduced in the motion picture studios two years ago as a method for increasing the effective speed of negative film after exposure, latensification —

. . . is now being used by Columbia, Paramount, Warner Brothers, 20th Century-Fox, R.K.O., Republic and Samuel Goldwyn studios.

. . . permits economies in set lighting costs up to 60%.

. . . can save footage exposed in adverse light; permits making good negatives in sub-normal light.

. . . widens scope of filming night exteriors.

. . . permits stopping down lens for focal depth when shooting in low key.

. . . requires no costly equipment installation.

The Officers and Staff
of

J. E. BRULATOUR, INC.

extend to
ALL CINEMATOGRAPHERS
Everywhere—

HOLIDAY GREETINGS

and

GOOD WILL

For
The Christmas Season
and
The New Year—



YOUR AUTOMOBILE may be used in a number of ways to make moving camera shots. For an effective dolly shot, mount camera in trunk compartment, as shown here. For a lengthy travel shot, tie down camera securely and partially deflate tires to cushion bumps.

Moving Camera Shots In Amateur Movies

By RAY FERNSTROM, A.S.C.

IF YOU HAVE access to any vehicle that has four wheels and will support your cine camera, you have the means for making moving camera shots for your movies. Such vehicles may range from a lowly roller skate or toy wagon to your automobile and all can be put to good use by the amateur to add effective cinematic touches to his films. The pictures on this page show how one enterprising movie amateur employed her automobile as a camera dolly, mounting the camera on the hood for a trucking shot, inside the car for an unobtrusive follow shot, and then set her camera up in the trunk compartment to shoot action as the automobile driver pulled away from the scene.

Too few movie amateurs use the "fluid" camera technique because they mistakenly believe that such technique calls for elaborate studio-type camera booms and dollies. The amateur has only to experiment a little to discover how much more professional his movies can be made to appear on the screen when the camera moves in for a closeup or follows action on a dolly —all in a single shot, without the disruptive effect of a series of cuts.

Why should we use a moving camera? The question is a logical one in view of the fact there is usually quite enough motion within the average movie scene. However, there are several good reasons why the moving camera is an indispensable part of effective motion picture technique. First, when a camera

(Continued on Page 449)

WITH CAMERA mounted on tripod and set up inside car, you can shoot interesting action unobserved, make follow shots with professional style. Always shoot through open windows. Shooting through glass may cause distracting ghost images on film.



FOR A SLOW dolly shot of limited scope, mount camera on light tripod and place on hood of car, as shown here. Heavy comforter holds tips of tripod legs securely.



Kodak
TRADE-MARK

THE WORLD'S MOST
VERSATILE 16MM.
MOTION-PICTURE CAMERA

Cine-Kodak Special II Camera

Superb 16mm. motion-picture camera with the controls for special effects integral with the basic model. Fully capable for precision movie making just as it's supplied . . . and further adaptable through accessories to meet the specialized requirements of every field served by 16mm. motion pictures.

One of Cine-Kodak Special II Camera's standard features is described at the left. For further details about this outstanding 16mm. camera, see your Kodak dealer . . . *or write Rochester for the free booklet, "Motion-Picture Making with the Cine-Kodak Special II Camera."*

EASTMAN KODAK COMPANY, Rochester 4, N. Y.

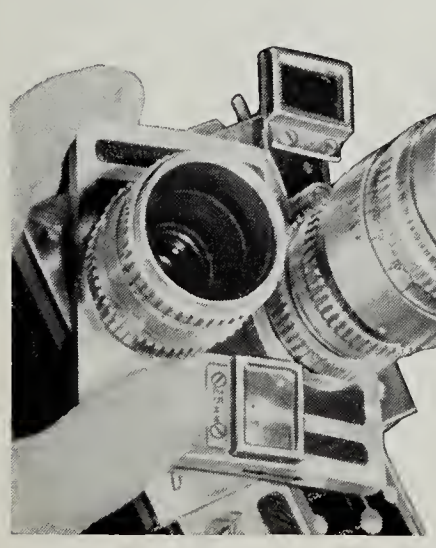
Interference-Free Turret

A slight twist turns the turret . . . clicks the stand-by lens into automatic alignment in the taking position.

There's no trick to switching focal lengths . . . no risk of obscured movies. Because the turret is angled, you can use any two Kodak Cine Lenses in combination without the slightest physical or optical interference—regardless of speed, focal length, or barrel design.

And because adapters are integral with the turret, you attach lenses directly—any of twelve Kodak Cine Ektar and Ektanon Lenses . . . ranging from 15mm. to 152mm.

A separate, clip-on finder is available for each lens accepted —so that you can instantly adjust your field of view to match that of the lens on the camera.

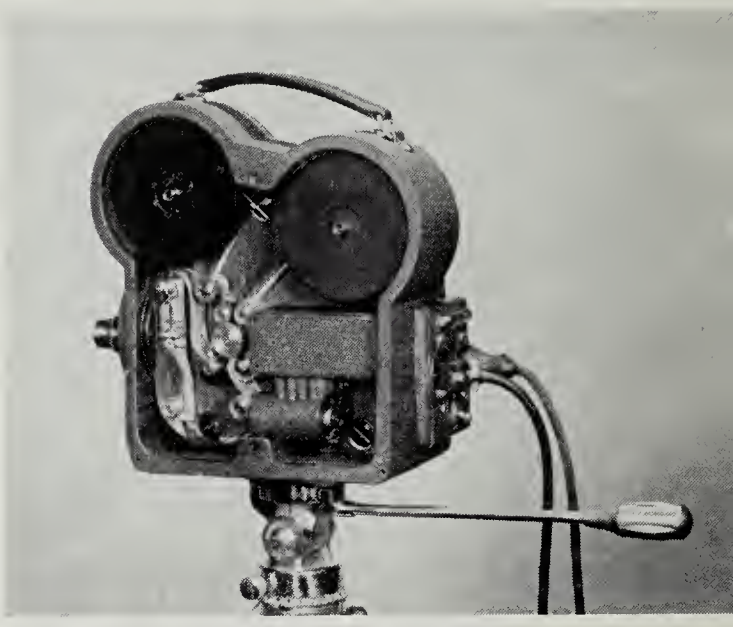


One of a series of pages which help to explain why Cine-Kodak Special II Camera is known as the world's most versatile 16mm. motion-picture camera.

Cine-Kodak Special II Camera is illustrated with 200-foot Film Chamber, standard Kodak Cine Ektar 25mm. f/1.4 Lens, and accessory Kodak Cine Ektar 63mm. f/2.0 Lens.



LOW PRICE and simplicity of operation of the Cine-Voice camera now make it possible for movie amateurs to make 16mm. sound films in color or black and white, just like the professionals. It's destined to open new horizons of filming for the advanced cine amateur.



EASY TO THREAD is the Cine-Voice, and simple to operate as any 8mm. or 16mm. cine camera. Maximum film capacity is 100 feet—takes 50-foot spools, too.



DESIGNED for the advanced amateur, the Cine-Voice will find use in many professional fields, too, such as production of instructional and television films.

A 16MM. SOUND CAMERA FOR THE HOME MOVIE MAKER

Biggest news for movie amateurs since advent of the cine camera is Auricon's new "Cine-Voice" which records picture and sound simultaneously.

By GLENN B. LEWIS

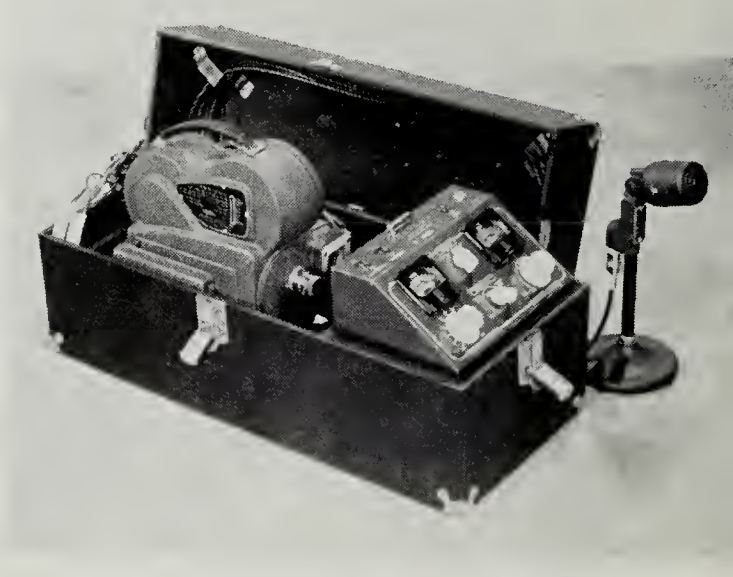
EVER SINCE the first 16mm. sound-on-film projector was introduced, the home movie maker has dreamed of the day when a 16mm. camera would be available for making talking-pictures at home. The new Auricon 16mm. "Cine-Voice" sound-on-film camera is the answer to that dream!

Designed and built in Hollywood by the Auricon Division of Berndt-Bach, Incorporated, this new 16mm. sound camera features simplified controls, weighs only 12½ pounds, and is priced within reach of the advanced 16mm. movie maker. It can be used for making talking pictures around the Christmas tree, during vacation trips, at birthday parties, or even during baby's bath, all with theatrical brilliance and clarity.

To record the actual sounds as they occur along with the picture, you merely place the Cine-Voice microphone outside of camera range, adjust the amplifier, and shoot. Synchronization of sound and picture is automatic, as both are put on the film at the same time.

The Cine-Voice camera is driven by a constant-speed electric motor. The camera's 100-foot film capacity provides a

(Continued on Page 446)



CAMERA, microphone and sound amplifier and controls all fit snugly into this compact, light-weight carrying case. Portable batteries supply the power.



Two-Star Gift-Hit

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Competition open to members of amateur movie clubs within the United States. Non-movie-club-members may also compete by submitting films through their local amateur movie club. (See rules below.)

RULES

- Each entry must be wholly amateur produced, except for any titles and film laboratory work. Any sound accompaniment must be recorded exclusively by the entrant or club submitting the film.
- Competition open to members of amateur movie clubs within the U.S. Clubs will evaluate and enter the best 8mm. and best 16mm. film completed by a member since January 1, 1948. Individuals (non-club-members) may also compete by submitting films to their local amateur movie club for entry at discretion of the club. (Refer to your local camera store for name and address of local club, or write the Editor.)
- Amateur movie clubs may enter films not to exceed 4, as follows:
  - Best 8 mm. member-made film.
  - Best 16 mm. member-made film.
  - Best 8mm. non-member film.
  - Best 16mm. non-member film.
- Film length limits: 16mm.—800 feet. 8mm.—400 feet.
- Entry Fee: $1.00 for each subject submitted.
- Each film reel as well as its container must be plainly and securely labeled with owner's name and address **plus** name and address of club entering the film.
- All films must be shipped on reels and in cans to contest headquarters fully prepaid. Entry blank and fee should be mailed in advance of film. Films will be returned directly to owner via Express collect, fully insured. **Be sure** to indicate value on your entry blank for which films are to be insured.
- Please indicate make and model of camera and the lenses used in making your picture, also brand of film used. This information will have no bearing on evaluation of films, but is desired by judges for reference.
- Do not submit any films before **January 1, 1950.** Send only your entry blank which may be obtained by writing The Editor, American Cinematographer, 1782 No. Orange Drive, Hollywood, Calif.

16MM. SOUND CAMERA

(Continued from Page 444)

maximum of 2¾ minutes of continuous recording when a scene of this length is desired. The camera can be hand-held or mounted on a light-weight tripod when telephoto lenses are used.

Eastman Kodak, DuPont and Ansco all furnish sound film on 100-foot daylight loading spools for the Auricon Cine-Voice camera. Either regular or Type A Kodachrome film may be used, too, to make movies in color and sound.

Sound is recorded in the Cine-Voice camera with standard 26 frames separation between sound track and corresponding picture. This means that sound movies made on the Cine-Voice camera can be threaded into any standard 16mm. sound-on-film projector when it is received from the film processing laboratory, and the recorded speech or music will be played back in perfect synchronism with the pictures. If splices are made in this film, the sound and picture will still maintain perfect synchronism, just as Hollywood feature pictures do in your neighborhood theatre.

The sound track made by the Cine-Voice camera is photographed along one edge of the film by a "galvanometer." All the sound recording lenses and the galvanometer are extremely rugged in construction and require no adjustment of any kind. The Cine-Voice equipment can be subjected to audible shock such as gunfire, without damage. The galvanometer is as rugged as your telephone receiver, and will operate in any position, whether the camera is being hand-held or on a tripod.

The sound track recorded by the Cine-Voice galvanometer is of the variable area type, which has proven to be most successful, especially since the film processing needed for this type of sound track is not critical. The galvanometer is driven from a 5 tube amplifier, having the necessary controls for recording highest quality sound—speech or music. The amplifier has two meters: one to indicate volume of sound being recorded on the film, and the other to indicate the exposure of the sound track. The meters are calibrated and previous experience in sound recording is not needed to understand their use and operation. The sound track exposure indicator meter also provides a means of checking on the condition of the amplifier batteries, which are of the portable radio type. Replacements can be obtained at any radio supply store.

Two input plugs are provided on the Cine-Voice amplifier: one for the sound recording microphone and a second input for connection to a crystal phonograph

pickup. The microphone input has a volume control and also a speech-music tone control connected with it. The phonograph input permits feeding music from phonograph records into the amplifier at the same time speech is being picked up by the microphone, so that both speech and music can be put on the film at the same time if desired. The amplifier and batteries are contained in a lift-out tray in the large carrying case, so that the carrying case can be put to one side and the amplifier and batteries in lift-out tray can be placed on a convenient chair or table. The amplifier has sufficient power to record satisfactory speech when a person is talking in a normal tone of voice outdoors as far as 6 feet away from the microphone.

Not only is the Cine-Voice a sound recording camera, but it is also a precision-built photographic instrument. The film is handled at the picture gate on stainless steel balls, a patented Auricon feature until recently used only on 16mm. professional cameras.

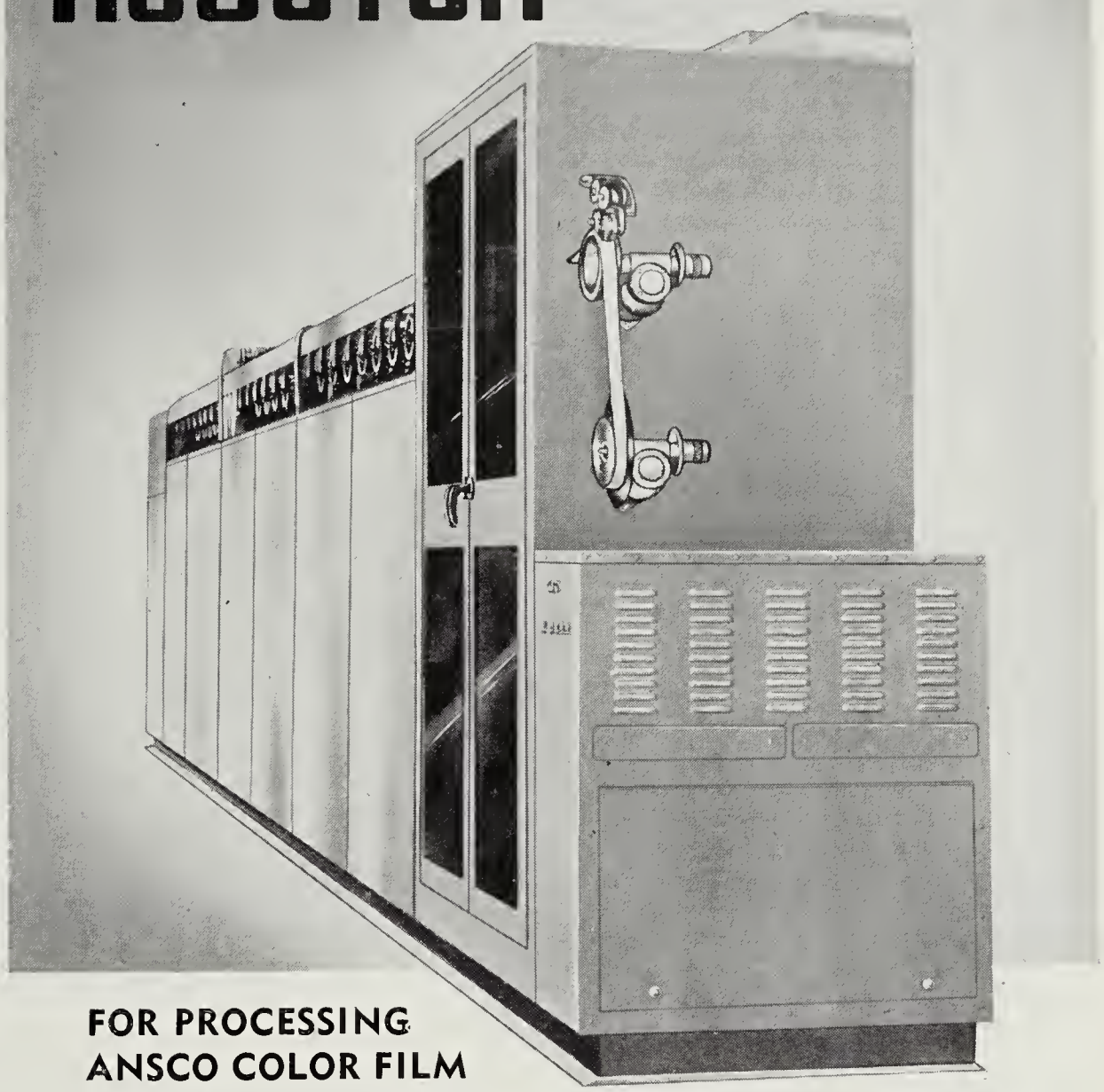
The intermittent film pull-down claw is made of hardened steel, precision-ground to size. It moves the film gently from one picture frame to the next, and is noiseless in operation. The Auricon film movement was specially designed for use in sound recording cameras, and permits silence of operation so that camera noise is not picked up by the microphone. The entire camera mechanism is mounted on a solid aluminum casting, precision-machined. All the parts are thus held in exact alignment.

The Cine-Voice camera body is also of solid aluminum, precision-machined for ruggedness and light weight. The camera takes "C" mount lenses, such as used with most popular 16mm. cameras today.

A control panel at rear of camera provides plugs for connecting camera to the sound-recording amplifier and also for connecting camera motor to a source of 110 volt 60 cycle A.C. current. The Cine-Voice camera is so quiet in operation, that a pilot light is provided that flashes red when the motor is on. This prevents accidentally running camera.

A newly designed optical system provides the Cine-Voice user with a large, clear picture in the finder. The finder's maximum aperture covers the 15mm. wide angle lens. Professional-type transparent plastic mattes may be inserted into the finder to adapt it for other lenses. A matte for 1" lens is provided as standard equipment. Mattes to match other lenses are available as extra equipment. A parallax adjustment is provided on the Auricon finder, which allows complete accuracy in framing pictures, down to 4 feet. A footage indicator is a built-in feature, so that the amount of unexposed

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film left in the camera can be seen at a glance.

The camera is finished in an attractive gunmetal-gray baked enamel finish, and a steel reinforced leather handle is provided at the top for convenient carrying. The case furnished with the Cine-Voice equipment will carry both the camera and amplifier with batteries, together with the microphone, headphones, microphone-cable, and mike desk-stand. The carrying case is made of plywood and covered with leather-grained maroon fabricoid.

DIFFERENT AND DIFFICULT

(Continued from Page 437)

to complete more than 20-odd set-ups, an achievement aided by the absence of the usual painted backdrop.

Except for thre sequences, which called for actual reproduction of Bastogne and environs, our backing was pure white, a continuous strip, approximately 1000 feet, covering the stage's four walls. When seen through a film or fog, it created the hazy effect of distance. (This complete utilization of every inch of floor space resulted in the only sound stage I ever saw devoid of stars' dressing rooms, chairs or benches. We stretched out on the dirt.)

The plain backdrop—an idea evolved by Cedric Gibbons, Supervising Art Director, and Camera Department Head John Arnold—offered unusual lighting possibilities. Rather than flood this evenly with light in the conventional manner, I lit it unevenly, creating the effect of varying degrees of depth and distance.

Snow, which played a major role during the actual siege of Bastogne, also presented problems. Using the new fire extinguisher-type liquid, whipped, vaporized and blown through whirling discs (a mammoth combination of mixmaster and shower head!) we produced realistic snowfalls which could be regulated as gentle fall or violent blizzard. It fell, piled into drifts and clung like the natural thing. This called for the camera crew and Director Bill Wellman to work frequently from inside a tent. In addition to its realism our snow had the nasty habit of staining clothes and proved painful on contact with the naked eye.

Only one special camera gadget was used (front cover). Inside a light steel framework the camera was suspended from light coil springs, braced horizontally and vertically by additional springs. For sequences showing collapse of a house or foxholes during artillery bombardment, I struck the framework a sharp blow. The camera, jarred momentarily, quickly "jittered" back to normal, creating the concussion effect of a heavy explosion. We rehearsed the house col-

lapse meticulously, with an intricate system of cue lights and buzzers, for once destroyed that particular set would have taken several days to reconstruct. It had to be right first take.

Dolly and panning shots were held to a minimum. On only two occasions, when photographing troops drilling and marching, were trucking shots used. One —on the rolling hills behind Fort McArthur—ran for nearly a full half-mile, and without benefit of camera car. This sequence, by the way, proved a field day for a local whitewash concern, who "snowed in" a mile of the countryside spraying the stuff through three-inch hoses.

Only for this and preceding sequences showing the break-through of sunlight, a focal point in History and "Battleground," did I use arcs, controlling the change from complete fog to partial sunshine by using shutters on the arcs to denote the sunshine source.

Our guide and yardstick throughout was U.S. Army film, loaned the studio as part of the 100 percent co-operation M-G-M received, including official records, still photographs and equipment. To capture the authenticity or "honesty" desired, well over a million feet of wartime film was checked, a labor of love, I think, which paid dividends.

Co-operation, in fact, highlighted the entire production. I was unusually blessed in this respect with the help and encouragement I received from Schary, Wellman and Bob Pirosh to Cedric Gibbons and all connected with the film.

In restrospect—now that the "shooting" is all over — "Battleground" now appears more of a "different" than a "difficult" assignment. Though physically unpleasant with the constant fog, snow and wind, at least it was a mutual discomfort, enjoyed by the entire company.

MOVING CAMERA SHOTS

(Continued from Page 442)

is set up for an effective static composition and securely locked in place, the pictorial result may be striking according to the criteria one would use in evaluating a still photograph. However, if this composition is to be retained throughout the scene, it is evident that the action which takes place in that scene must be limited to the boundaries of the frame. The result is not only static visual composition but inhibited action as well. The obvious alternative to this cut and dried presentation is the use of the *pan* and *tilt*. But here, the uninitiated often goes overboard, "spraying" the landscape as if with a garden hose.

In between these two extremes lies the moving camera shot. It is effected by placing the camera upon some mobile base so that it can be freely moved about the locale. In the studio, the "movable bases" range from small dollies to huge camera booms capable of swinging many feet into the air.

The moving camera shot has two main purposes. Its most legitimate function is to follow action; that is, to actually go along with the pattern of movement executed by a player or some other active element of the scene. The second effective, if somewhat less legitimate, use of a moving camera is to force action into a scene which might otherwise be static or lack proper dramatic emphasis. Above all, the cine amateur must realize that in order to be professional, his moving camera shots must be executed smoothly and not too rapidly.

Let us explore some of the practical uses of the moving camera in relation to the amateur film. Let us say that Little Sister is having a birthday party. In the climactic scene, she has opened all of her lesser presents, and begins to open the package containing the huge doll which Mother and Dad have bought for her. The conventional way to handle this sequence would be to start with a medium shot of Sister opening the present, cut to a close-up of the doll as it is unwrapped, cut back to a medium shot of Sister lifting the doll out of the package and clasping it to her, and finally cut to a close-up of sister ecstatically hugging the doll. Through the use of the moving camera, this entire sequence of four scenes could be filmed in one shot, with much better flow and continuity than in the chopped-up version. For example, we could start with a close-up of the package being unwrapped. As the doll is revealed, the camera would pull back to a medium shot of Sister's first reaction. Then the camera would move in to a close-up of her face as she happily holds the doll.

The advantages of this method should be obvious. In the first place, instead of four separate setups, resulting in four abrupt cuts, only one would be required. Second, the entire action is complete as filmed, thus eliminating the necessity for cutting. Finally, there would be a natural flow of action as opposed to the jerky result that might be achieved if you had to stop Sister after each small segment of action, make a new camera setup, and then expect her to re-create her enthusiasm for the overlap of action.

When the camera pushes in or pulls.

(Continued on Page 451)

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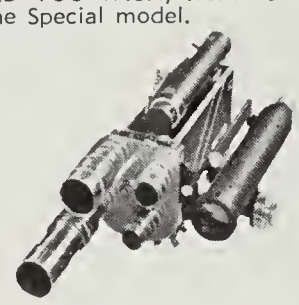
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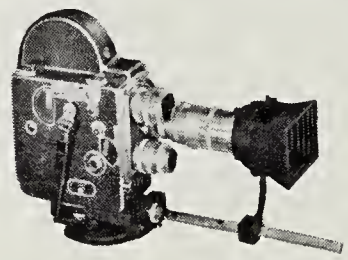
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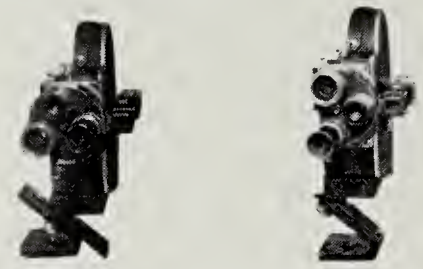


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MOVING CAMERA SHOTS

(Continued from Page 449)

back at an accelerated speed, the effect is known as a "zoom shot." This device is very effective when applied to a particularly dramatic sequence, because it forces an immediate focus of audience attention toward a particular small but important segment of the scene. Obviously, however, it should not be used too often or in a sequence which does not demand such emphasis. It is often effective to conclude one sequence by zooming to a close-up and begin the following sequence by pulling back from a related close-up. Thus the moving camera shot becomes a useful continuity device by helping to effect smoother transitions.

The *follow-shot* is perhaps the most functional device for the use of the moving camera. As the name implies, it is used to follow a particular pattern of action, especially when the action covers a considerable space. In order to set up a good follow-shot, it is first necessary to rehearse the action exactly as it will be staged for the camera. Draw a diagram of this action in relation to the setting. Next, decide where the camera should be in each separate stage of the action in order to capture the full effect of the situation. The next step is to link these separate camera positions together with lines indicating the path which the dolly must follow in order to achieve proper coverage. A rehearsal with the camera will then show up any awkwardness in camera movement as related to the action, and adjustments can be made accordingly.

In some cases, the camera will have to move only a very few feet in order to cover the action; in other instances, such as a situation in which a character is driving down the street in an automobile, it will be necessary for the camera to follow the action over great areas of space. The fundamental principles of technique involved, however, remain the same.

The question naturally arises as to how the amateur is to achieve these effects in terms of required equipment. As we have already stated, it is not necessary to have huge camera booms; a bit of ingenuity coupled with the sparsest equipment will often do the trick quite satisfactorily.

A child's wagon is one of the most obvious and popular vehicles to be used as the movable base for the camera. The wagon should be big enough to comfortably accommodate both the camera and the cameraman. As wagon wheels are usually made of solid rubber mounted on rigid discs, the problem of bumpiness becomes important. This situation can be alleviated through the use of smooth lumber planks pressed into service as dolly tracks.

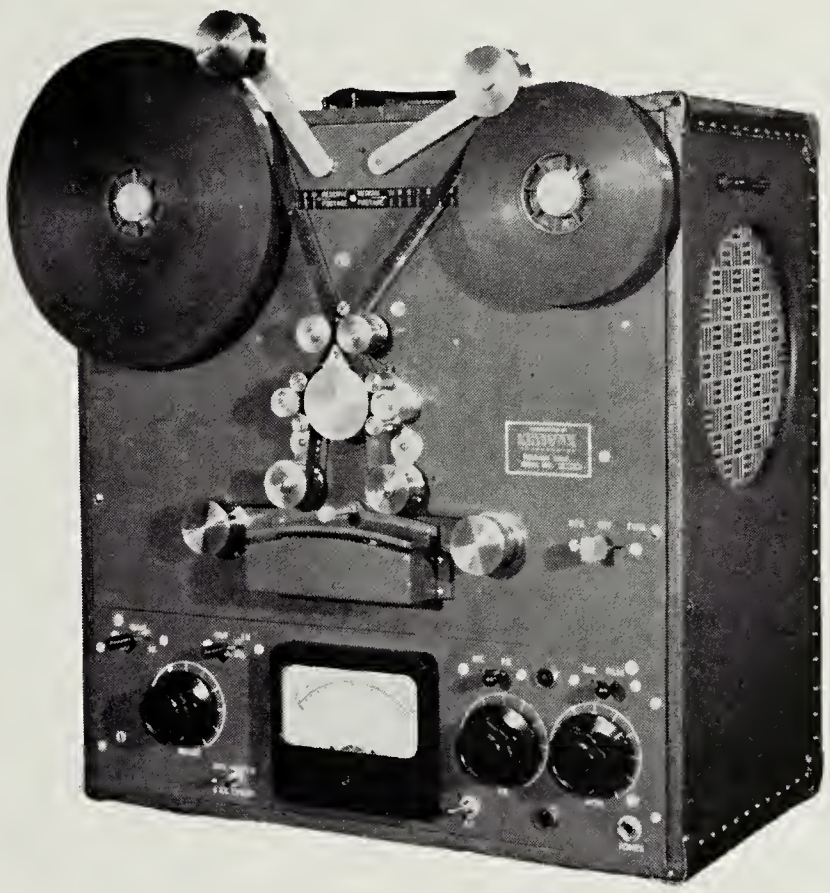
Offered on the market are several light-weight triangular dollies constructed simply of three pieces of metal tubing and three wheels. Such dollies have their applications, but since the cameraman must run the camera and push the dolly at the same time, the chances of really smooth camera movement are greatly diminished.

It is much better to have the cameraman concentrate solely upon the handling of the camera and to have someone else push or pull the dolly. A satisfactory dolly can be easily constructed out of lumber and a few other inexpensive materials. Basically it is nothing more than a wooden platform mounted on wheels (preferably pneumatic) with a T-handle in back. The rear axle should swing freely, so that dolly shots can be made around corners, etc., but a rigid stop should also be included so that the wheels can be set for a straight movement in or out.

For follow-shots outdoors where the action transpires over a relatively large space, an automobile (especially a con-

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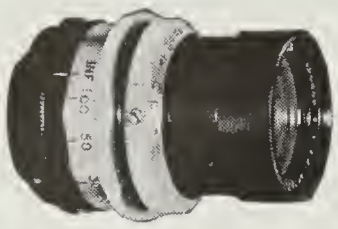
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vertible) can very often be used to fine advantage. The automobile can either be run under its own power, or for smoother effect it can be pushed by a group of husky stalwarts. To ensure even greater smoothness of operation it is advisable to let about half the air out of the tires. Lacking a convertible, it is sometimes quite satisfactory to point the camera out of the window of a closed car.

Elevator-shots are obtained in professional motion pictures through the use of a giant camera boom equipped mechanically to zoom up into the air. For the amateur, the elevator-shot is a much more difficult proposition, but one which is not absolutely impossible to achieve. One of the neatest substitutes for an elevator boom is a hydraulic lift of the type used in service stations. Of course, the limitations of this alternative include the necessity of getting the permission of the service-station manager to put a platform across his hydraulic lift and running it up and down, as well as the limitations in background.

In the filming of specialized subjects, cameramen have often taken advantage of devices such as loading-cranes and construction-elevators already set up for some other purpose. For interiors, a perfect elevator substitute when available is the small type of hoist truck called a "goose" which is used in warehouses to haul and lift various loads into place. The hydraulic lift mechanism of this truck works smoothly and at the right rate of speed. Coupled with the mobility of the truck itself, it forms a perfect elevator boom for the amateur cameramen whenever he is lucky enough to find one.

The moving camera shot is a professional technique which the amateur cameraman can adapt to advantage in the filming of his own movies. A bit of ingenuity will enable him to achieve fluid camera effects similar to those which Hollywood's top cameramen use so effectively in the major studios.

STORY TELLING WITH FILM

(Continued from Page 438)

something better and more interesting than it was ever done before.

That the Director of Photography will exceed his share, is taken for granted in Hollywood. Every production attempts to be different from another and each presents a challenge for new photographic approach. Upon being assigned to a new production the Director of Photography carefully studies the script and plots the style of photography most appropriate to the story. He aids in selecting the locations and offers suggestions towards set construction, painting, makeup and costuming—all to the end that the production may be made artistically and with the utmost economy.

The Director of Photography plans his photographic treatment so that each setting will take on a sense of reality and enhance the story idea and mood of the picture. The director and the cinematographer work as a team and each exchange suggestions about lighting and the staging of scenes. Whenever possible, the style of lighting is varied from sequence to sequence so as to add interest and impact to the photographic effects. At all times must the players be photographed to their best advantage. The studios have made tremendous investments in building their stars. Every effort is expended to display them most ideally. As there is no retouching possible in movie film, our stars must be very carefully lighted so that they appear their most glamorous. The science of lighting is therefore highly developed among the Directors of Photography, and is an art that is constantly being refined. We strive to obtain photographic interest combined with a sense of reality, yet being on guard that the photography never detract nor overpower the story being unfolded upon the screen. Our lighting technique has lent its influence to other branches of the art. Commercial and portrait studios frequently adopt our style and use much of the equipment developed by the cinematographer.

The economies of motion picture production invariably fall on the Director of Photography. He is expected to utilize more tricks and lighting devices to cover lack of actual construction, yet create the illusion that such construction exists. More and more of our scenes call for process photography whereby a still or motion picture is projected from the rear on a translucent screen. To effect a composite scene realistically, ingenuous lighting must be devised to light the subject naturally, yet keep the screen in darkness.

In recent years there has been increasing tendency to utilize natural interiors for motion picture settings. Many of our current productions transpire in Macy's; in some Court House, store, private home or Public building. This has given our productions a sense of authenticity, but in doing so it has presented new problems to the cinematographer. To light such interiors and the players therein to the standards expected of us is a challenge. To meet with these conditions, often huge filters need be placed over windows and doors to balance exterior light with that available inside. As lights can seldom be placed overhead, horizontal sources must be employed. Reflections from glass, marble and other shining

surfaces add to the complications of natural reproduction.

As action is the motivating force of the cinema, the majority of our scenes today require the mobile camera technique. Our cranes, velocilators, dollies and camera mounts are wonders of engineering and construction. Few realize however, the difficulties of lighting these moving shots. The actors must be well photographed under all conditions, yet there can be no shadows from these traveling monsters. The ever present microphone constantly hovering close overhead, darting here and there as the actors speak, creates a shadow problem of no mean proportion. To cope with the microphone situation in sound films, a whole new lighting technique had to be devised. Ingenuous light shields and masks have been evolved to eliminate stray, shadow-casting light.

Our sets are broken up with light patterns that stay clear of the microphone. We use dimmers for mazda lamps and shutters for arc lights to bring their illumination into play where needed. The sound blimp encasing the camera is a bulk in itself that is an obstacle to lighting, and in moving shots is a shadow-maker. Thus, many moving scenes cannot entirely be pre-lit because of shadows cast by the equipment. Until the precise moment shadows are clear, offending lights remain out. They are then brought on, and then dimmed out after they have fulfilled their use.

Infra-red film is used for making many of our out-door productions. Properly used, it lends extra Pictorial interest and excitement to the action. Many of our standard and overworked locations take on the "new look" when photographed with infra-red. New make-up had to be devised for infra-red and in this the cinematographer carried on research with the make-up manufacturers to secure proper materials.

Color photography continues to make progress but will always require a delicate sense of lighting values. We are avidly encouraging the manufacture of better films, meanwhile mastering some of the shortcomings of present processes. Dramatic, low-key lightings create the problem of red faces and color distortion when filming in color. Yet, progress demands imaginative lighting to keep abreast of requirements of production. To a great extent the Director of Photography has devised a means of lighting that avoids these short-comings, and in so doing make the processes appear better than they are. Increasingly more productions are filmed in two-color, single film monopack and the three strip methods. A special photographic technique is required for each.

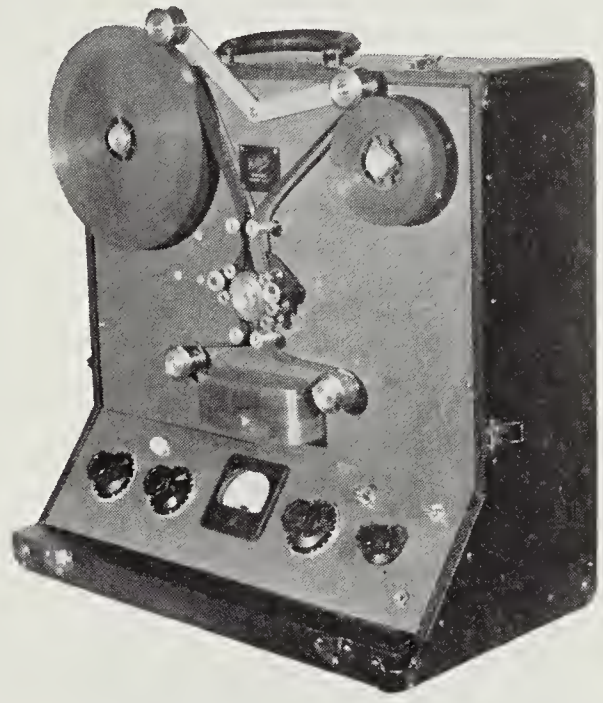
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tography has long been the goal towards which much effort has been put forth. That it will eventually come into use is only a matter of time and research. The director of Photography assists in new technical development by suggesting improvements and by testing new materials before they become commercially available. Our own cultural and educational organization, The American Society of Cinematographers, is particularly active in furthering the development of new processes and new techniques in cinematography. Recently we added to our clubhouse in Hollywood, the finest of projection facilities, which now make it possible for manufacturers and others in the industry to demonstrate new films, new color processes and new photographic innovations to the cameramen of Hollywood, enabling them all to keep abreast of those developments which are so vital to the progress of the art. We invite co-operation from all sources that will enhance that miracle of the modern age—*photography*.

RESOURCEFULNESS PAVED THE WAY . . .

(Continued from Page 439)

two mazda bulbs with empty tomato cans as reflectors, and to the amazement of everybody, he eliminated the dark splotches the "bags" had always made on the star's face.

When he saw that this worked, he rigged up a lot more mazda bulbs, hanging them about the set. The result was that he succeeded in making the picture with a wide range of tone values instead of sharp blacks and whites which characterized arc-lighted pictures.

In his youth, Garmes interest in movies was so intense, he persuaded his folks to move to Hollywood from Denver so he could try for a job in one of the studios. He heard of an opening for a property boy at the old Thomas Ince studio, applied and was hired, and soon caught the eye of cameraman John Leezer who took him on as his assistant and taught him the business. After several years as an assistant, he was given the job as first cameraman on a series of Gale Henry two-reel comedies, and subsequently was assigned to photograph his first full length feature. A Menjou picture followed shortly thereafter and Lee Garmes was well on his way to success. He recently completed shooting "With All My Love" for Samuel Goldwyn, the photography of which is marked throughout by the well-known Garmes' resourcefulness and imaginative treatment.

The resourcefulness of Joseph Walker, A.S.C., in applying his knowledge of high tension electricity in the staging of an early-day motion picture scene, led him to taking up cinematography as a career. Walker is one of the few directors of photography who never served an apprenticeship as assistant or second cameraman. He was an electrical engineer. His specialties were what was then called "wireless" and high tension electricity. In this latter capacity he was one day called into consultation by a studio to advise how to stage a scene in which an actor was to sit on an electric chair that was to emit sparks.

It was while rigging up the sparking apparatus for the chair and during the subsequent photography of same that Walker was bitten by the photographic bug. Not long thereafter he gave up his electrical job and went to work in a motion picture film laboratory. Here he worked through every stage, from sweeping the floor to developing negative, tinting, toning and printing. When a rush call came through for a cameraman one day, and no one was available, Walker, despite his lack of experience in camerawork, talked himself into the job—and made good. He's been making good ever since.

"That may sound like coming up the easy way," he said, "but it wasn't. I had to find out everything for myself—and do it the hard way." Walker's independence and self-reliance has given his work an individuality which has made him one of the industry's really outstanding directors of photography.

Incidentally, the man generally credited with establishing the title "director of photography" is Sol Polito, A.S.C., who, back in the early Vitaphone days of sound films at Warner Brothers studio, convinced studio executives that the cinematographer, now charged with the greatly expanded scope of photographing movies with sound, could be more valuable in a supervisory or directorial capacity than operating his own camera. Back in those days the first cinematographer acutally operated the camera. If there was such a thing as a second cameraman, he was there to operate an additional camera.

"In those days," said Polito, "they didn't think they could cut the sound track as flexibly as picture film. This was because the sound was recorded on discs instead of film. Thus, every cut or angle of a complete sequence had to be shot all at the same time, and this involved using six to eight cameras shooting from all angles at once. Planning the lighting and compositions for that many cameras was a real job. To do it well and at the same time operate one's own camera proved impossible." Polito convinced the front office of the wisdom of his suggestion for a director of all photograph-

ers and his plan has remained in practice ever since.

Polito's first job in the picture business was as a projectionist in a small theatre. While grinding out pictures night after night, he determined to become a cameraman and create the pictures instead of merely projecting them. His opportunity came when he met Tony Gaudio, then chief cinematographer for Carl Laemmle's old Victor Company, which was a subsidiary of Universal. There were no such things as assistant cameramen in those days but Gaudio took Polito under his wing as a sort of protegé-apprentice and taught him the camera business. By 1913 Polito was sufficiently proficient to land a job as cameraman with the IMP company, which was the producing branch of the Universal organization.

Sol Polito's ever-adventurous nature and resourcefulness soon had him out on a limb at IMP. At that time, the studio had been shooting all its interiors with Cooper - Hewitt mercury - vapor floodlights. Arc lights for studio use had just been introduced, but few studios would accept them. Sol decided to try on one scene what we now call "effect lighting," using an arc lamp to cast strong shadows on the set. When the rushes came through the studio executives were furious. The shadows, they said, detracted from the actors and ruined the scene! And Polito was fired.

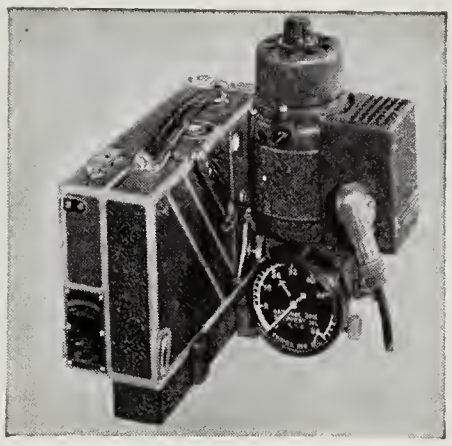
"Yet, today," Polito will tell you, "it's traditional that cinematographers are paid more for the shadows they create than for the highlights!"

Readers who may not be familiar with Polito's name on the credit titles will at least remember his superb photography of such pictures as "Sorry, Wrong Number," and "Anna Lucasta."

Ray June's advent in cinematography encountered parental rather than studio hurdles. Back in 1914, people in June's neighborhood didn't rate movie folk very highly and Ray's folks put their foot down flatly on any suggestion that he accept a job that was open in the laboratory of a studio in Ithaca, New York. But he got around this when he explained that inasmuch as his job at the lab called for working nights, he wouldn't come in contact with movie people.

While on this job, the studio's lone, temperamental laboratory chief failed to show up one day. "He just didn't come to work," Ray says, "and there was the day's shooting to develop and print—and only me to do it! Luckily I'd learned enough so I knew how to mix the chemicals and dunk the film. Thus I became the successor to the studio's laboratory head."

Several weeks later, the studio's head





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cameraman neglected to show up and again Ray came to the rescue. He'd never operated a camera before but he had watched the cameraman enough so he pretty well knew what to do. "This was only three months after I'd first set foot inside the studio," said Ray, "and there I was a full-fledged first cameraman!" Which is just about the record for a man who started from scratch and without any previous experience. June is celebrating his 34th year as a cinematographer at MGM where he has been a director of photography for many years. You'll have a chance to observe his skillful camera work in Metro's "Nancy Goes To Rio," starring Ann Sothern, and "The Reformer And The Redhead," starring June Allyson and Dick Powell.

George Folsey, A.S.C., is another MGM director of photography whose entry into cinematography is an interesting story. When George was fourteen and job hunting, the local Y.M.C.A. bureau sent him to fill a call for an office boy at the Lasky Feature Play Company. The name didn't mean anything to him and he was on the job a day before he knew what kind of business he was in. The next day when such stars as Mary Pickford, Carlyle Blackwell, John Barrymore and Harold Lockwood brushed past him on their way through the studio, he decided he was going to like the job no matter what.

As time went on, he was often pressed into service to take the part of an office boy or a messenger boy in a scene, or perhaps a prop boy. Finally there came the opportunity to go out on the set as an assistant to one of the cameramen.

"It was my first introduction to photography," said Folsey. "Up until this time, I'd never touched a camera—never even owned a box Brownie. But somehow, I took to it instinctively."

Four years later Folsey was promoted to second cameraman and then his luck changed. The first cameraman with whom he worked, a temperamental Frenchman, suddenly decided one day to retire to his native France and raise violets! The picture was only half finished — but George Folsey, then only eighteen, stepped into the Frenchman's job and the most difficult assignment he has ever had.

"It wasn't just an ordinary picture," said Folsey. "The star, Alice Brady, was playing a dual role—and a difficult one. She had to talk to herself in two characterizations, shake hands with herself, and pin jewelry on her "double"—routines that are simple to handle today in this era of optical printers and process photography."

With all his innate resourcefulness, Folsey met the challenge—not with elaborate mattes—but through skillful lighting, and doing many of the takes with the set completely masked with black velvet. The rest is history. George Folsey continued to rise to the greatest heights in his profession and today he is one of MGM's most talented and resourceful directors of photography.

Next month we'll describe some of the men who already were experienced in still photography when opportunity knocked and beckoned them to the more lucrative and specialized field of cinematography.

NEW SPEED FOR FILMS

(Continued from Page 440)

other studios of the latensification process, shooting all their "B" pictures with purposely reduced illumination and subjecting the negative to post-exposure. Here they term the procedure "50 foot candle lighting," rather than latensification, because these pictures are all photographed with illumination of 50 foot candles, as opposed to the 120 foot candles formerly used. This results in a saving of up to 60 per cent in lighting costs, they say.

By fixing the illumination norm at 50 foot candles, there is no question in the laboratory about the amount of post-exposure that must be given the negatives. From exhaustive tests made when Columbia adopted the latensification process about eight months ago, the laboratory knows exactly how much post-exposure to give the negatives photographed especially for this treatment.

Obviously there is considerably economy in lighting costs effected by the use of 50 foot candle illumination. Because Color-Tran units and photofloods are mostly employed for set lighting, the time required for rigging conventional heavy lighting units on sets is eliminated. "For these productions," one studio spokesman said, "we do all the lighting from the floor. If there is need for an ovrehead light, it is quickly clamped at the top of one of the walls of the set. But the rigging of overhead lights is definitely eliminated."

Use of the "50 foot candle" system has made it necessary for the cinematographers employed on such productions to adapt themselves to the new lighting. Phil Tannura, A.S.C., and Henry Freulich, A.S.C., who have filmed a great many of the "50 foot candle" pictures at Columbia, found no difficulty in adjusting their techniques to meet the reduced illumination level.

It is in the production of their comedy shorts and action westerns that Columbia has discovered "latensification" effects the greatest economies. With these films the arty lighting and photography employed in major features is unnecessary.

The resort to latensification saved several valuable shots which director of photography Charles G. Clarke, A.S.C., was forced to make in adverse light recently while on location in Germany for the 20th Century-Fox production, "Two Corridors East." Earlier, Sol Halprin, A.S.C., and Henry Goldfarb who head that studio's camera and laboratory departments respectively, had prepared for just such eventualities and added latensification facilities to the Fox laboratory. Clarke simply marked the underexposed footage for latensification, with indications of the approximate illumination deficit, and the laboratory applied the necessary post-exposure to render a normal negative. The use of light to increase the effective speed of the negative permits very accurate control and yields dependable and uniform results, Halprin pointed out.

Latensification has been in practice at the Fox studio about a year and both cinematographers Norbert Brodine, A.S.C., and Clarke have made many tests and subsequently planned their photography to take advantage of this valuable new process. Edward Snyder, A.S.C., at the same studio has employed latensification advantageously in the production of background plates.

Warner Brothers, although as yet not using the process as extensively as some other studios, nevertheless has installed the most modern latensifying equipment of any studio laboratory. "We are prepared, and use latensification occasionally when we have no other recourse," said Fred Gage, studio lab head.

Metro-Goldwyn-Mayer studios are reportedly interested in the process and while they have not as yet installed equipment for latensifying film in their own labs, are understood to be conducting tests.

Independent laboratories such as Consolidated and Pathe, in Hollywood, were among the first to realize the great benefits arising from the latensifying process and were among the first to equip for rendering this service to independent motion picture producers and to major studios not yet equipped for the process. At the present time, Consolidated Film Industries' laboratory in Hollywood is doing latensification work for RKO, Samuel Goldwyn and Republic studios. "Studios who were cautious about the process in the beginning, now use it regularly," said Sid Solow, head of Consolidated. Pointing out that latensification is a definite attribute in the use of Ansco Color film, Solow said latensification is destined to become part of the regular procedure in all color film processing.

Equipment cost is never a factor in

the decision to adopt use of latensification. As Mr. Moyse pointed out in his article: "The equipment for post-fogging can take a variety of forms but can be visualized as a dry-box-like arrangement wherein a negative can be exposed to a weak source of light for a number of minutes as it passes through. . . . The exposing light source should be variable in intensity but under accurate voltage control at any given intensity. Light filtered by an ordinary green safelight can be used on panchromatic materials, as a matter of convenience, but any color which will fog a negative will produce the effect."

BULLETIN BOARD

(Continued from Page 432)

give complete coverage. Footage will be made a part of U-I's forthcoming "Rose Queen" which starts rolling in mid-January.

•

DEWEY WRIGLEY, A.S.C., and Schuyler Sanford who have been shooting background footage in Europe to re-furbish Paramount's stock shot library, have supplied that studio with 100,000 feet of stock shots of Italian locales. Both cameramen were sent overseas months ago primarily to work on Hal Wallis' "September." Following completion of that assignment, they roamed Europe and filmed scenic and background shots needed in future productions.

•

UNPRECEDENTED smog and fog conditions in the Los Angeles area latter part of November curtailed shooting activities on three pictures and forced production managers to revise filming schedules to indoor sets. Productions affected were Kramer's "The Men," being photographed by Bob deGrasse, A.S.C., "Annie Get Your Gun" which Charles Rosher, A. S. C., is filming for M - G - M, and "Bright Leaf," Warner Brothers production with Karl Freund, A.S.C. behind the camera. The Gene Autry company at Columbia reportedly salvaged scenes shot in smog, by latensifying the film.

•

LESTER WHITE, A.S.C., started filming on location at San Diego November 28th on Thor Productions' "Dark Challenge," starring Mickey Rooney and Pat O'-Brien.

•

COLUMBIA PICTURES becomes first major studio to enter production of motion pictures for television on substantial scale. Studio will start a series of films especially for TV in New York December 1st. Already signed to star in initial group is comedian Billy Gilbert.

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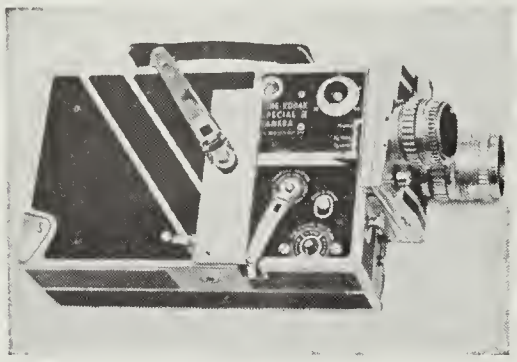
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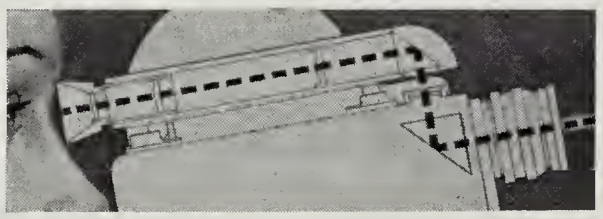


"T" Stop Calibrator

Photo Research Corpn., Burbank, Calif., announces its new transmission "T" Stop calibrator, a scientific optical instrument designed to accurately measure the true transmission potential and exact focal length of lenses. It permits exacting recalibration of lenses to "T" stops by studio camera departments, technical laboratories, photographic service stores, etc. Complete details and prices may be had by writing manufacturer at 127 W. Alameda St., Burbank.

Custom Accessories

Pictorial Enterprises, 742 Market St., San Francisco, Calif., announce an extensive line of custom-built accessories for Bolex and Cine Special cameras, including varifocal viewfinders, matte-box and filter holder assembly, five-unit extension tube set and a precision alignment gauge for the Bolex 16". High craftsmanship, according to Lee W. Smith, head of company, assures precision results, ease of operation and accurate fit to the cameras for which each piece is designed. Of special note is the varifocal viewfinder with 5-element optical system giving sharp edge-to-edge images even at low light levels.



Eye-Level Focus

Now standard equipment on Bolex model H cameras is the Bolex Eye-Level focusing device, permitting focusing through the lens before making the shot, insuring sharp focus at all times. Ground glass focusing has always been a feature of Bolex cameras. New Eye-Level focusing enlarges image 10 diameters. Owners of older model H Bolex cameras may have the Eye-Level focuser added to their cameras for $37.50 (plus tax) through their local dealers.

Color Film Processor

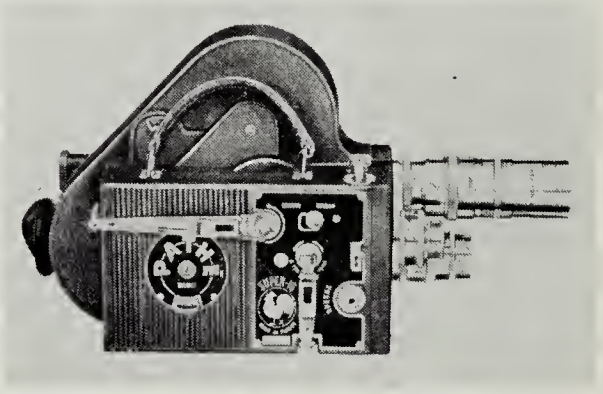
Houston Corp., West Los Angeles 64, Calif., announces a new automatic color film developing machine, designed for processing Ansco Color film. Four models are available for 35mm. and 16mm. film.

Motor Drive For Bolex, Special

A precision-made, instantly attachable battery-operated electric motor for Bolex and Cine Special cameras is offered by the Miles Engineering Co., Box 5872, Kansas City, Mo. Click switch affords use of three speeds: 8, 16, or 24 f.p.s. Motor weighs 8 oz., is ball-bearing, governor controlled. Net weight of motor, case and battery is less than 5 lbs. Complete unit sells for $57.50. A special sound model, operating at 24 f.p.s., sells for $67.80.

Magnetic Recorder Data

Kinevox, Inc., 4000 Riverside Dr., Burbank, Calif., has prepared an informative new brochure and data sheet on Kinevox synchronous magnetic film recorders. Also announced as companion for the Kinevox recorder is the new Kinevox Film Phonograph or dubber and a four-position mixer, which provides all the equipment necessary for production of magnetic film sound tracks for 35mm. or 16mm. motion picture production. Make request on your letterhead.



Pathe Camera Comes To U.S.

Pathé Ciné, 521 5th Ave., New York, headed by Robert E. Brockway, is now distributing the complete line of Pathé 16mm. motion picture cameras and projectors manufactured by Pathé in France.

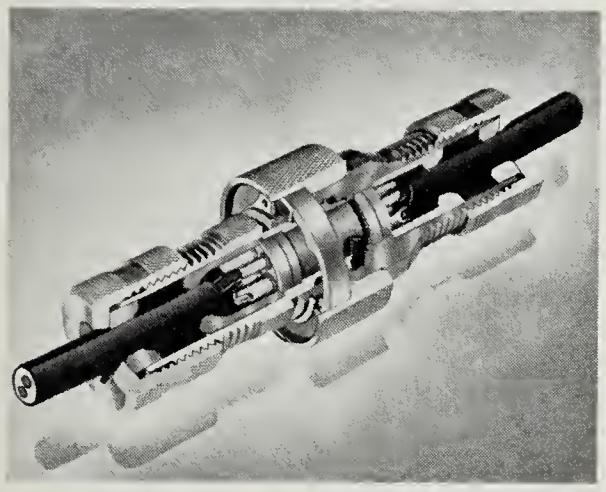
The "Super-16" Pathé camera, priced at $395.00 less lens permits viewing picture through the lens while shooting—a new innovation in ciné cameras. Other features include variable shutter, speed range from 8 to 80 f.p.s., runs 30 feet of film at one winding, automatic footage and frame counters, tri-lens turret, built-in hand crank, optical viewfinder and single-frame device.

New Magnetic Film Recorder

The Hallen Corporation, 3503 W. Olive, Burbank, Calif., announces the Hallen Junior synchronous magnetic film recorder—a single unit machine designed especially for economy of operation and light weight. Companion equipment to the Hallen B-22 recorder, the "Junior" may be had in portable case or for rack and panel mounting. Features include monitor speaker in the removable lid, special salient-pole motor, convenient, easy-to-see sloping amplifier and mixing panel, simultaneously functioning erase, record and playback heads, handles up to 1000 feet of magnetic film.

Fast Cine Lens

Ciné Balowstar is name of new and unusual 16mm. camera lens announced this month by Jen Products Sales Co., 419 W. 42d St., N. Y. Said to be faster than any cine telephoto lens yet designed, the Balowstar is computed to give the highest definition and edge-to-edge sharpness in natural color, due to a completely new mathematical formula. Aperture range is from f/1.3 to f/16. Calibrated in both f/ and T stops. Focal length is 1½". Price is $199.00, tax incl.



Waterproof Coupling

A quick disconnect electrical coupling for all-weather and sub-marine applications is a new development of Rolyn, Inc., 718 W. Wilson St., Glendale, Calif. Coupling is designed to meet the rigid requirements of industries requiring an electrical connector that is quick acting, heavy duty, impervious to moisture and capable of withstanding pressure without leakage. It is ideal for use on electrical cables for all types of motion picture production, but especially for exterior location work where considerable moisture prevails. A quarter turn is all that's required to make or break the coupling. Descriptive literature is available.

New S.O.S. Catalog

J. A. Tanney, president of S.O.S. Cinema Supply Corp., 602 W. 52nd St., N. Y., announces a new catalog listing its film production and television equipment. Titled "Sturelab 8A," this new catalog is divided into sections and includes a cross-reference index leading to instant locating of items. Catalog lists about 1600 items and contains over 200 photos. Also, many items are priced at savings from 25 to 40 percent. A copy will be mailed free.

Equipment Catalog

Producers Service Company, designer and manufacturer of the famous "Acme" motion picture production equipment has just issued a comprehensive 16-page catalog which illustrates all the equipment, accessories and parts now being offered by this company. Complete description is given together with photo reproductions of such items as the Acme Process Camera, Acme Animation Boards, Process Projector heads, Acme Matte Shot Projector, Acme Printers, etc. Also included is sale and rental price lists of Acme equipment.

Apogar Lens

The C. P. Goerz American Optical Company is now supplying photo dealers and camera stores with the popular new f/2.3 Apogar lens. This is a six-element high quality lens for both 16mm. and 35mm. cameras. Corrected for aberration at full opening, fitted to a precision focusing mount, lenses come in "C" mounts for 16 mm. cameras.



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Keel, Louis Calhern, J. Carrol Naish, Edward Arnold, Keenan Wynn and Benay Venuta. George Sidney, director.

• HAROLD ROSSEN, "Asphalt Jungle," with Sterling Hayden, Jean Hagen and James Mitchell. John Huston, director.

• JOHN ALTON, "Mystery Street," with Ricardo Montalban, Sally Forrest, Bruce Bennett and Marshall Thompson. John Sturges, director.

• HAROLD LIPSTEIN, "The Skipper Surprises His Wife," with Robert Walker, Joan Leslie, Edward Arnold, Spring Byington and Leon Ames. Elliott Nugent, director.

• ROBERT PLANCK, "Summer Stock," (Technicolor) with Judy Garland, Gene Kelly, Gloria DeHaven, Phil Silvers and Eddie Bracken. Charles Walters, director.

Monogram

• GILBERT WARRENTON, "Young Daniel Boon," (In Color) with David Bruce, Kristine Miller. Reginald LeBorg, director.

• WILLIAM SICKNER, "Joe Palooka In Honeymoon For Five," with Joe Kirkwood, Leon Errol and Pamela Blake. Jean Yarbrough, director.

• HARRY C. NEUMANN, "Fence Riders," with Whip Wilson, Reno Browne and Andy Clyde. Wallace Fox, director.

Paramount

• WILLIAM MELLOR, "A Place In The Sun," with Elizabeth Taylor, Montgomery Clift and Shelly Winters. George Stevens, director.

• GEORGE BARNES, "Mr. Music," with Bing Crosby, Charles Coburn, Ruth Hussey and Nancy Olson. Richard Hadyn, director.

• ROY HUNT, "Outrage," (Pine-Thomas) with Macdonald Carey, Gail Russell, Ed Rios. Joseph Losey, director.

• CHARLES LANG, "September," (Hal Wallis Prod.) with Joan Fontaine, Joseph Cotten, Francoise Rosay and Robt. Arthur. William Dieterle, director.

• VICTOR MILNER, "The Furies," (Hal Wallis Prod.) with Barbara Stanwyck, Wendell Corey, Walter Huston. Anthony Mann, director.

R.K.O.

• FREDDIE YOUNG, "Treasure Island" (Walt Disney Prodn.—Shooting in England) with Bobby Driscoll, Robert Newton, Basil Sidney and Denis O'Dea. Byron Haskin, director.

• HARRY WILD, "Carriage Entrance," with Robert Mitchum, Ava Gardner and Melvyn Douglas. Robert Stevenson, director.

• LEO TOVER, "Blind Spot," (Skirball-Manning Prod.) with Claudette Colbert, Robert Ryan and Jane Cowl. Mel Ferrer, director.

• HARRY STRADLING, "Edge Of Doom," (Goldwyn Prod.) with Dana Andrews, Farley Granger, Joan Evans. Mark Robson, director.

20th Century-Fox

• CHARLES G. CLARKE, "Two Corridors East" (Shooting in Berlin, Germany) with Montgomery Clift, Paul Douglas, Cornella Burch and Burni Loebel. George Seaton, director.

• ARTHUR MILLER, "The Gun Fighter," with Gregory Peck, Helen Wescott, Jean Parker and Skip Homeier. Henry King, director.

• JOSEPH LASHELLE, "The Big Fall," with John Garfield, Micheline Prelle, Luther Adler and Orley Lindgren. Jean Negulesco, director.

• LEON SHAMROY, "Cheaper By The Dozen," (Technicolor) with Jeanne Crain, Clifton Webb, Myrna Loy, Betty Lynn. Sara Allgood. Walter Lang, director.

• MILTON KRASNER, "No Way Out," with Richard Widmark, Linda Darnell, Stephen McNally and Fred O'Neal. Joseph Mankiewicz, director.

United Artists

• HENRY FREULICH, "The Iriquois Trail," (Bernard Small Prod.) with George Montgomery, Brenda Marshall, Glen Langan, Sheldon Leonard and Paul Cavanaugh. Phil Karlson, director.

• ROBERT DE GRASSE, "The Men," (Stanley Kramer Prod.) with Marlon Brando, Teresa Wright, Richard Erdman and Everett Sloan. Fred Zinnemann, director.

Universal-International

• WILLIAM DANIELS, "Deported" (Shooting in Italy) with Marta Toren, Jeff Chandler. Robert Siodmak, director.

• MAURY GERTZMAN, "Double Crossbones," (In Color) with Helena Carter, Donald O'Connor, John Emery. Charles Barton, director.

• IRVING GLASSBERG, "Shoplifter," with Scott Brady, Mona Freeman, and Andrea King. Charles Lamont, director.

• MAURY GERTZMAN, "Death On A Side Street," with James Mason, Marta Toren and Dan Duryea. Hugo Fregonese, director.

Warner Brothers

• TED MCCORD, "The Victim," with Joan Crawford, David Brian and Steve Cochrane. Vincent Sherman, director.

• ERNEST HALLER, "The Hawk And The Arrow," with Burt Lancaster, Virginia Mayo and Frank Allenby. Jacques Tourneur, director.

• SIDNEY HICKOX, "The Rock Bottom," with Eleanor Parker, Patricia Neal, Ruth Roman, and Lief Ericson. Robert Wise, director.

• ROBERT BURKS, "The Glass Menagerie," with Gertrude Lawrence, Jane Wyman, Kirk Douglas, Arthur Kennedy. Irving Rapper, director.

• CARL GUTHRIE, "Storm Center," with Ginger Rogers, Ronald Reagan and Doris Day. Stuart Heisler, director.

• WILFRID KLINE, "Colt .45," (Technicolor) with Randolph Scott and Zachary Scott. Edward Marin, director.

• KARL FREUND, "Bright Leaf," with Gary Cooper, Jack Carson, Lauren Bacall, Patricia Neal, Donald Crisp, Elizabeth Patterson and Jeff Corey. Michael Curtiz, director.

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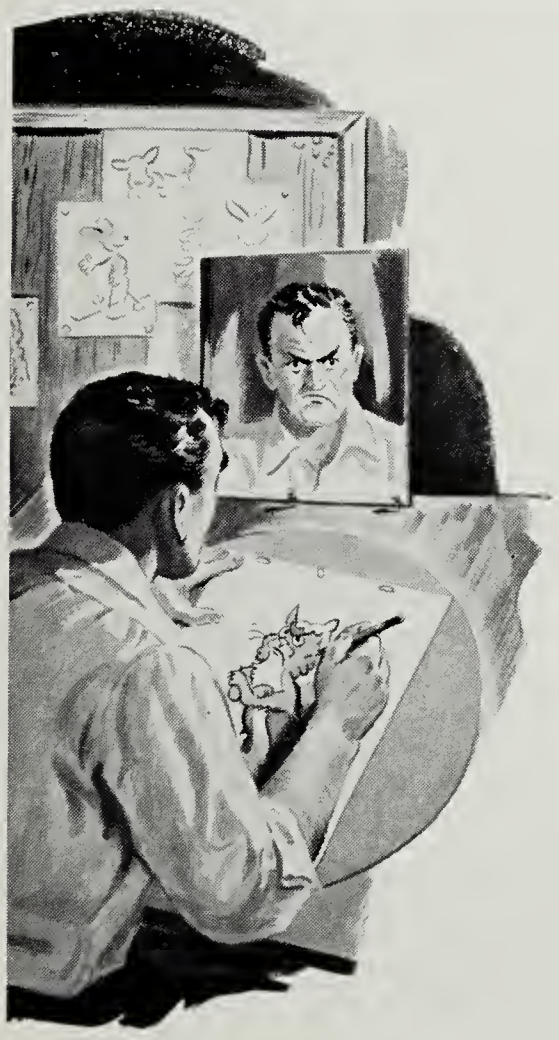
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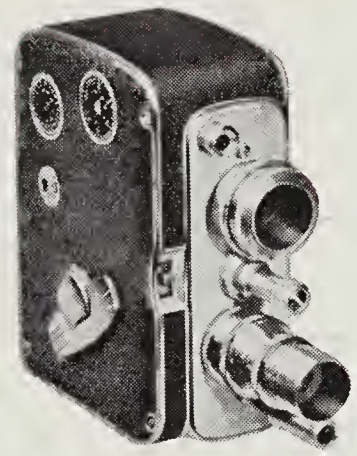
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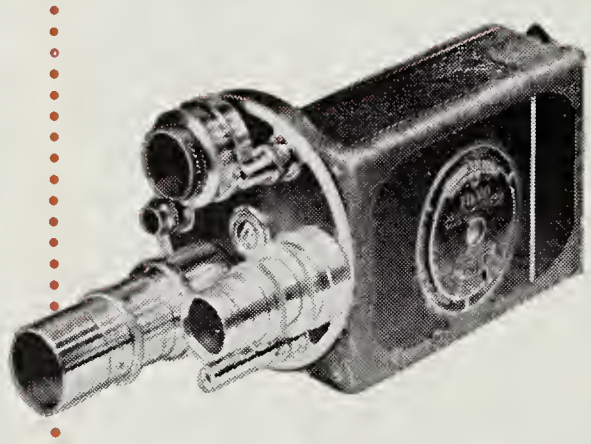


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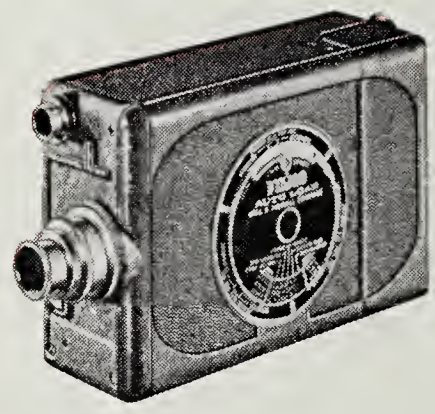
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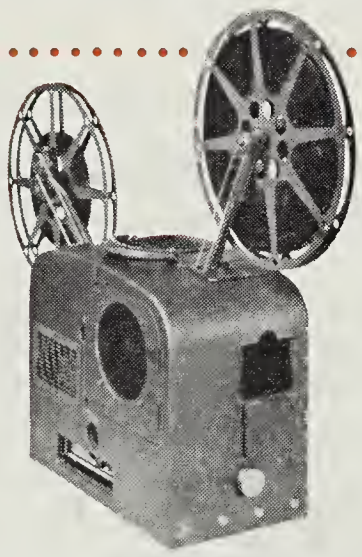
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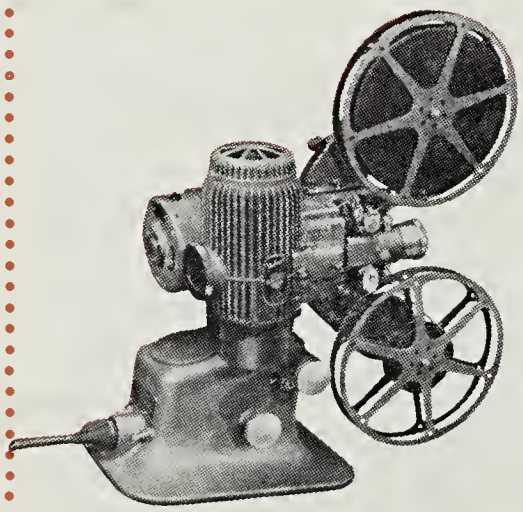
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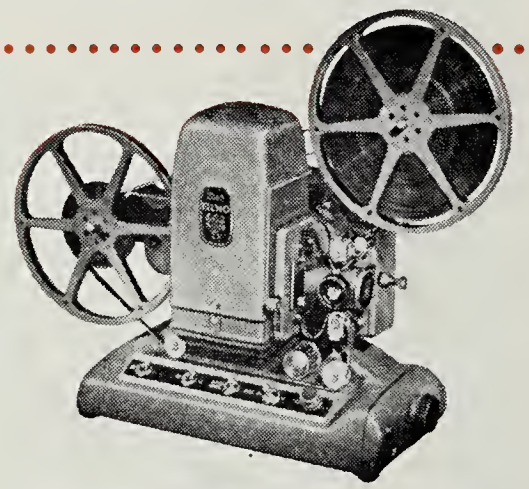
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